FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

STATE
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MARCH, 1953

Concealed spaces aid fire extension. Apartment building at Syracuse, N. Y., razed by fire which travelled vertically through old elevator shaft, and horizontally through concealed spaces. (Article on page 245)

A CASE · SHEPPERD · MANN PUBLICATION

is Your Community protected

by the MOST EFFECTIVE resuscitating apparatus known to Science?

EMERSON Resuscitators

SIMPLE to operate, with no complicated adjustments.

SAFE for adults, children, or infants. There is no record of lung injury from the pressures used in thousands of cases in more than ten years.

EFFECTIVE The suction phase, alternating with the positive phase, helps circulation and can be of life-and-death importance, especially to victims in shock.

ACCEPTED by the American Medical Association for use by laymen (A.M.A. Journal, May 30, 1942). Relied on from coast to coast by thousands of leading hospitals and fire departments.

WRITE for our free

Medical References on Resuscitation
Bulletin on Emerson Method of Artificial Respiration
Information and a Demonstration

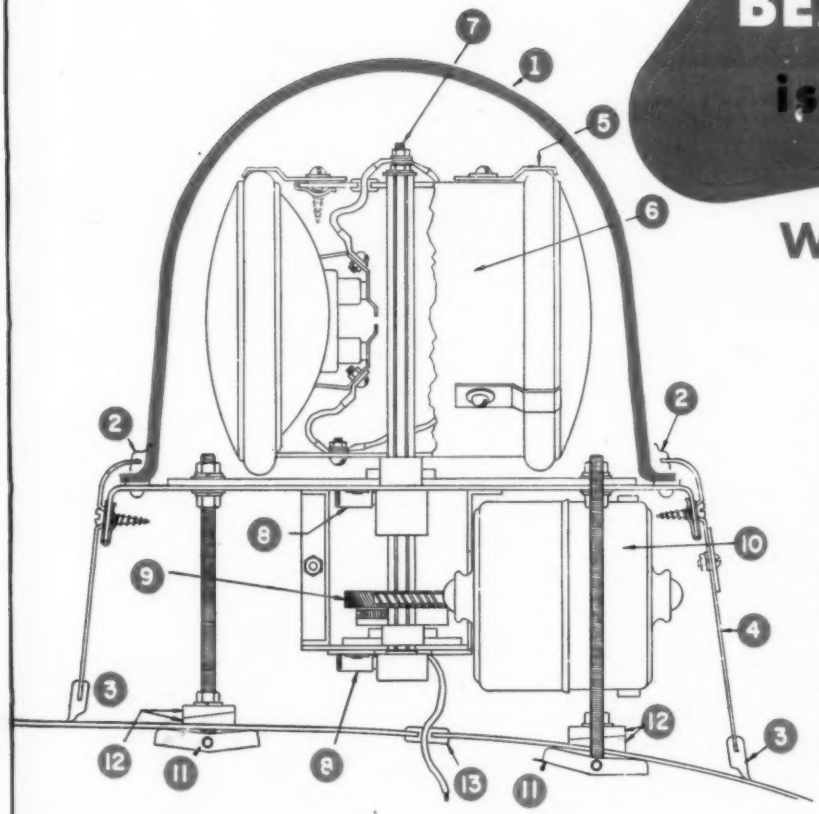
"Simplest and Safest"

J. H. EMERSON COMPANY

22 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASSACHUSETTS

Let's see *WHY*...

FEDERAL BEACON RAY is the best



WARNING LIGHT

There are other rotating lights, but only one Beacon Ray! The difference is in construction and design and it will pay you to know what these differences are when specifying for your apparatus. Recently a nationally-recognized state testing laboratory tested the Federal Beacon Ray and its imitators. Out of 17 standard features tested, Federal proved superior on 16 counts and tied with the second best on one (a minor construction detail where Federal was shown to be "more than adequate"). Beacon Ray excelled in cold weather starting, in resistance to vibration, resistance to wear, plus the 12 important features illustrated below:

1 Plexiglass Dome — Plexiglass of equal thickness transmits more light than ordinary glass. It is lighter weight, shock-proof and shatter-proof.

2 Dome Gasket Dome "floats" between a rubber gasket and 4 grommets to eliminate vibration. Gaskets keep out rain and snow, but allow for *ventilation* inside the dome. Ventilation eliminates condensed moisture which would reduce beam intensity, cause corrosion and create short circuits.

3 Skirt Gasket — Like the above, prevents vibration, protects against sleet and snow, and gives a neat appearance to trimmed edge of skirt. Ventilation and drainage is also provided in this gasket at lowest point of the skirt. Keeps mechanism dry by letting condensed moisture escape which would otherwise fill the space under the skirt, rusting the roof, corroding the mechanism and possibly short circuiting the motor.

4 Simple one-piece skirt fits low on the dome and does not obstruct the beams of light from the lamps. Removal of three screws permits dome and skirt to be lifted off together, easily and quickly for change of lamp or inspection of mechanism. Such removal breaks no necessary or permanent weather seal.

5 Lamp Retainers — Lamps are retained by three metal clips each in turn attached to lamp holder by a single screw. Clips hold lamps firmly in place with filament vertical for most effective beam spread, but permitting other arrangement.

6 Lamp Support — The lamp support is tubular for strength, firmly attached top and bottom to the vertical drive shaft so that it is vibrationless.

7 Drive Shaft — The 2 conductor tubular insulated drive shaft also serves to conduct both positive and negative current from the lamp leads which attach firmly and rotate with the shaft. Twisting or flexing of leads is not necessary so that breaking or short circuiting is eliminated.

8 Contact Brushes — Contact of both positive and negative circuits, between stationary and moving parts of the light is maintained by spring tensioned brushes against copper commutators. Commutator surfaces are vertical and therefore self-wiping. This means constant, uninterrupted current flow, no arcing, no pitting or overheating. Also using brushes on both sides of circuit prevents damage to bearings caused by a grounded circuit.

9 Main Gear — The main drive gear is made of special hard durable fibre to assure smoother silent operation even after "wearing in". Fibre against metal reduces wear on motor shaft and prolongs motor life. In case any external damage jams motor shaft, the fibre gear absorbs shock to reduce or prevent damage to motor or other parts of mechanism.

10 Motor — Special shunt wound motor provides a more constant speed regardless of temperature or voltage variation. Motor bearings are specially designed to assure instant start even in sub-zero weather.

11 Mounting Toggles — Toggles permit installation from "above" and "leveling" of light at minimum height regardless of roof contour. These toggles support the reinforced main frame of the light.

12 Tapered "Weather Seal" Washers Tapered washers in pairs, level up on any roof contour. *These are the true "weather seal"* that keep rain, snow and condensed moisture from getting under the roof and disfiguring upholstery. Even if the entire light mechanism is removed, the mounting toggles and "weather seals" need not be disturbed.

FEDERAL ENTERPRISES, INC.

FORMERLY: FEDERAL ELECTRIC COMPANY, INC.

8702 SOUTH STATE STREET • CHICAGO 19, ILLINOIS

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING. THE FIRE ENGINEER. FIRE PROTECTION *and* FIRE SERVICE

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

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MEMBER
Audit Bureau of Circulations
Associated Business Publications

Chapter and Verse About Fire Ladders!

ODDLY enough, although the ladder is one of the most vital of the fire fighter's assets and there have been continued improvement in fire ladders, there has never been a textbook devoted entirely to this essential facility. That is, not until now!

● Elsewhere in this issue we announce publication of the first comprehensive handbook on the subject. We do so with real pleasure, because "Fire Service Ladders" is the answer to repeated requests — we almost said demands — from our readers and other authorities for such a work.

● The pressure for this text began "way back when." It increased with the advent of the metal ladder, and continued to grow with the improvements in fire control technique and strategy.

● Research disclosed that although there have been, and are excellent publications devoted to certain elements of ladder operation, there really is no single comprehensive handbook which deals with the *entire broad subject* of fire service ladders—including their history, description, types and kinds, construction and specifications, use and operation, care and maintenance, and testing.

● And so developed the first Chapter, published in May, 1950. To be followed by 27 installments. But even before the final one, fire schools and colleges were using the text for instructions in ladder operation; Civil Service Commissions were using it to shape examinations, and fire departments were adopting the ladder test procedures recommended to prove the obsolescence of their ladders and ladder trucks.

● A lot of study has gone into "Fire Service Ladders". A lot of fire department libraries are going to find it on their shelves. And a lot of fire fighters are going to have a better knowledge and understanding of fire service ladders through this handbook.

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Wastes Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.50 a year; Foreign, $4.50; Single copies, 40c. ¶Member of Audit Bureau of Circulations and Associated Business Publications, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 5, 1879.

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"Specialized Leadership"

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THE ONLY EXCLUSIVE FIRE HOSE MANUFACTURER IN AMERICA

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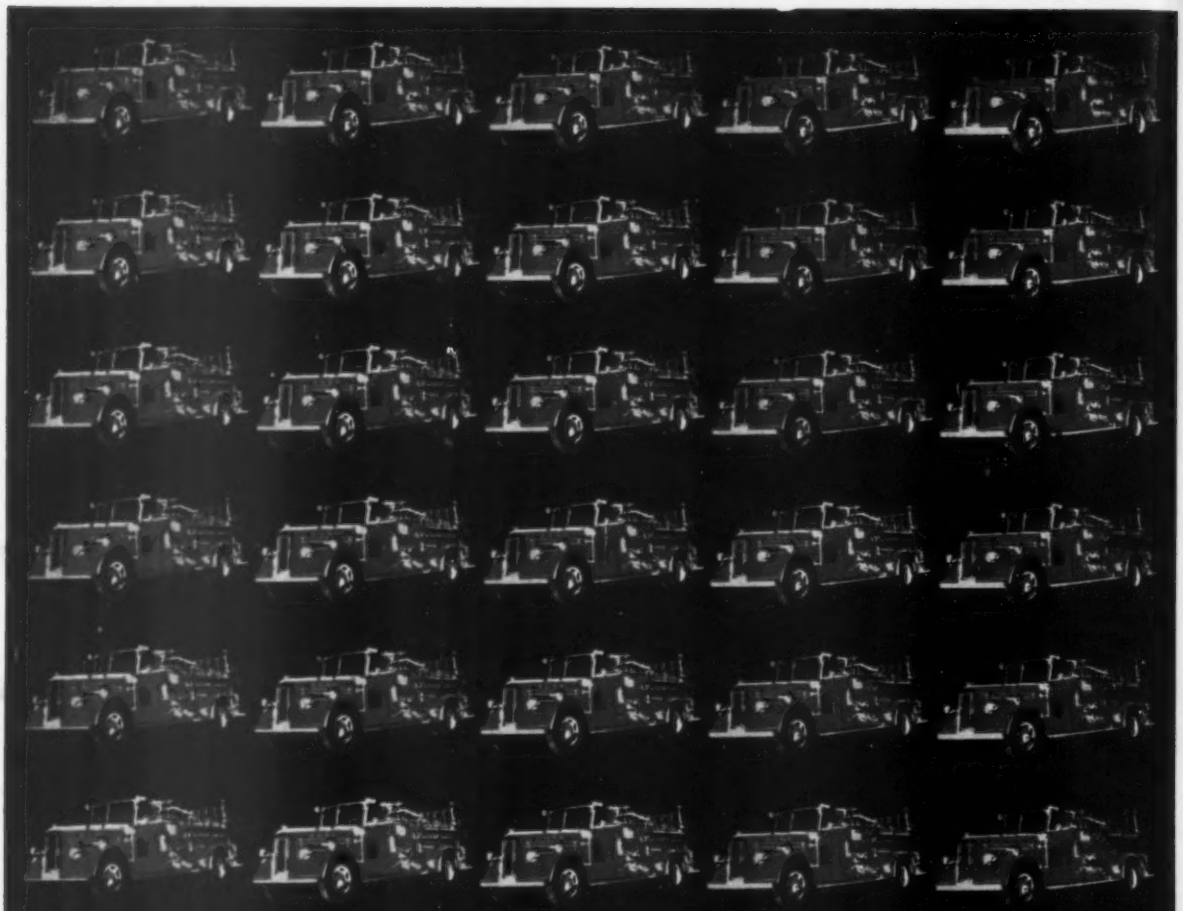

42 MORE . . .

WARD LaFRANCE Pumpers for New York City

This fleet of 42 pumpers has just been completed by Ward LaFrance for delivery to New York City. With these pumpers, Ward LaFrance will have produced well over 200 vehicles for the world's largest city!

And 49 more are now on order.

Why not check with Ward LaFrance first when your community is ready to add new equipment or replace old.

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EXPORT: Ward LaFrance International, Inc.,
Elmira, N.Y., U.S.A., Cable Address: "Wardtruck"

New B.F.Goodrich Highflex fire hose premium quality at no extra cost

Flexible, easy to coil, 23% lighter, saves space

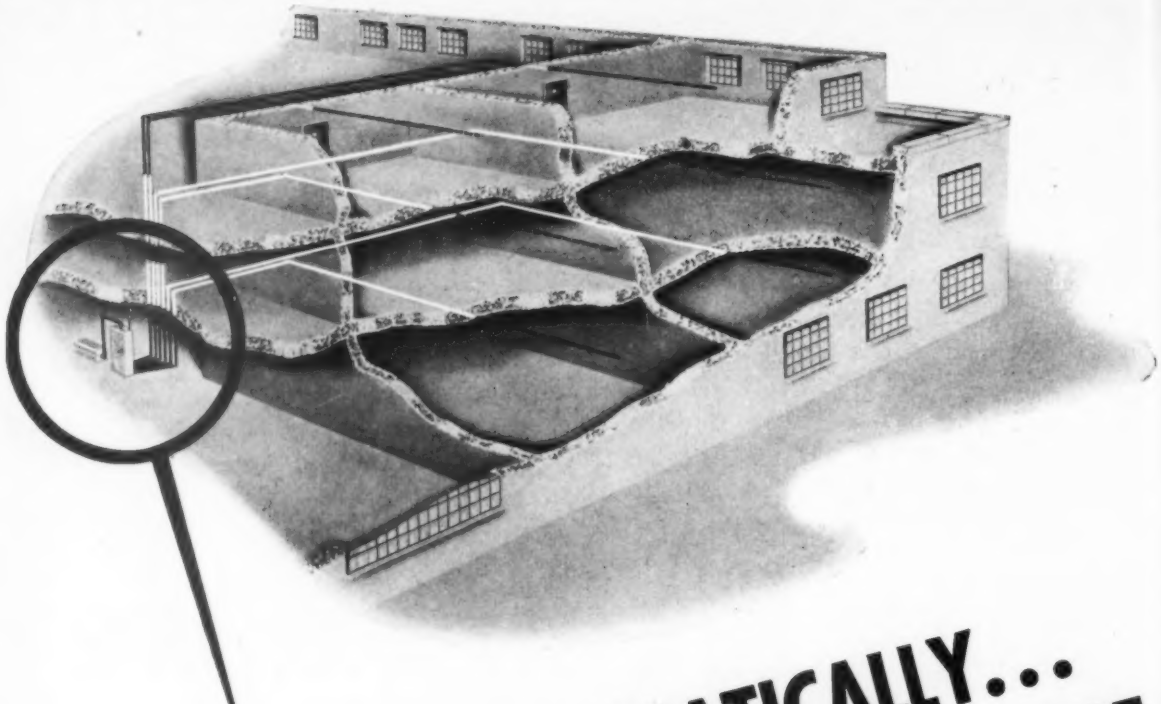
IT'S more flexible than the sleeve of your fire coat. That's Highflex—the new fire hose just developed by B. F. Goodrich. Highflex has all the features of the most expensive, premium-type hose, yet it costs no more than regular hose.

Most flexible hose made—It's a chemically-produced fiber that makes Highflex lighter, more flexible than other hose. This fiber, found only in B. F. Goodrich hose, is used as "filler" cords—the cords that go *around* the hose and carry the load under pressure.

3 times stronger—Compared with cotton, normally used as filler cords in other hose, this chemically-produced cord has *3 times* the strength for the same weight of cord. Every length of BFG Highflex is tested to 400 lbs. pressure.

It costs no more—Add it up. Because Highflex is more flexible you can rack more hose on the truck bed. Because it's 23% lighter, easier to handle, you cut minutes off loading time. Because it's made of stronger reinforcing cords you get longer hose life. But with all these extra features, you pay nothing extra when you buy B. F. Goodrich Highflex. That means you get more hose service per dollar. Your BFG Fire Hose Distributor has samples of the new Highflex hose, and will be glad to show it to you and quote on your requirements. *The B. F. Goodrich Company, Industrial & General Products Division, Akron, O.*

Fire Hose
BY
B.F.Goodrich



DETECTS AUTOMATICALLY... SMOKE, SMOLDERING AND FIRE

at any location in your plant or warehouse!

Each fire hazard point gets highly efficient, round-the-clock fire watchman service simultaneously, when a building is completely protected with a modern, fully approved C-O-TWO Automatic Smoke Detecting System.

The first whiff of smoke sets off an alarm, based on an exclusive operating principle . . . no chance of smoke, smoldering or fire spreading . . . instantly, the air conditioning shuts down, doors and dampers close, operating equipment stops and fire extinguishing systems actuate . . . a truly automatic fire watchman.

Four types of smoke detectors and several installation arrangements are available to fit your particular needs . . . single space systems, double space systems, multiple space systems, air conditioning duct systems . . . all function by drawing continuous air samples through simple piping to a smoke detector.

Actual fire tests made by the Underwriters' Laboratories, Inc. show that fire detection with this type of smoke detecting equipment is much quicker than other methods . . . because usually there is smoke or smoldering before flames break out.

Remember fire doesn't wait . . . so, with current expensive delayed replacements, why not let an expert C-O-TWO Fire Protection Engineer help you now in planning economical, fully approved fire protection facilities. Write today for complete free information . . . no obligation.

C-O-TWO

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeez-Grip Carbon Dioxide Type Fire Extinguishers
Dry Chemical Type Fire Extinguishers
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems
Built-In Smoke and Heat Fire Detecting Systems

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Sales and Service in the Principal Cities of United States and Canada

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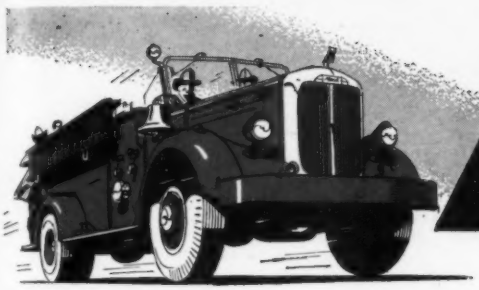


MACK...

makes new friends and holds the old

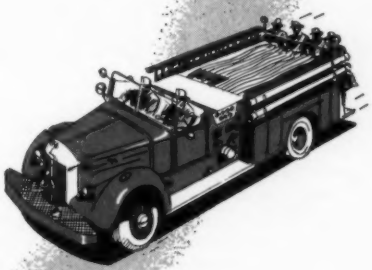
Good evidence of fire apparatus reputation is shown by the way it attracts new users. An important indication of its value is found in the volume of repeat orders. On both counts, the high standing of Mack fire apparatus is clear.

During 1952, Mack was proud to add to its roster of more than 1,000 departments the progressive new purchasers listed below. In addition, many Mack users of long standing placed orders for more apparatus.

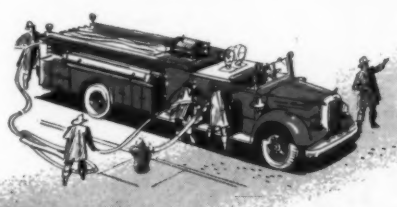
If you are an experienced Mack user, you'll appreciate Mack's leadership in essential fire apparatus qualities — outstanding performance . . . efficient design . . . long-lived dependability. If you have yet to put your first Mack into service, let us show you how your community will benefit when you Modernize with Mack.

new MACK users in 1952

Allendale, N. J.
Allington Fire District, West Haven, Conn.
Ambler, Pa.
American Cyanamid Co.
Bedford, Mass.
Biddeford, Maine
Bridgewater, Maine
Central Islip State Hospital, N. Y.
Cockeysville, Md.
Cranston Heights, Del.
Delano, Calif.
El Cajon, Calif.
Ellenville, N. Y.
English Consul, Md.
Five Mile Point, N. Y.
Fort Myers, Florida
Frederick, Md.
Fuller Road, N. Y.
Fullerton, Calif.
Hampstead, Md.
Industrial, Calif.
Kaiser Steel Corp.
Kittery, Maine
Lima, Peru
Locust Valley, N. Y.
Ludlow, Ky.
McDonnell Aircraft Corp.
Milltown, Canada
Minoa, N. Y.
Moorestown, N. J.
Munhall, Pa.
Old Salisbury Rd., N. C.
Ormond Beach, Fla.
Oswego, N. Y.
Plainview, N. Y.
Prospect Heights, N. J.
Prospect Park, Pa.
Reisterstown, Md.
Saylesville, R. I.
Sinclair Oil Co.
South Nyack, N. Y.
Sulphur, La.
Van Buren, Maine
Wayland, Mass.
West Hampton Beach, N. Y.
Whittier, Calif.
Williamstown, Ky.
Wilmington, Ohio
Winchester, N. H.



MACK MANUFACTURING CORPORATION
Fire Apparatus Division
Allentown, Pa.



modernize with

Mack
FIRE APPARATUS

Factory branches and dealers in all principal cities for service and parts. In Canada: Mack Trucks of Canada, Ltd.

TRIPLE COMBINATION PUMPERS—500 TO 1250 GPM . . . SQUAD AND HOSE WAGONS . . . 65', 75' AND 85' AERIALS . . . COMBINATION LADDER TRUCKS

It's a Fact

EVERY G-E 2-WAY RADIO CRYSTAL IS TESTED FOR DRIFT AND ACTIVITY FROM MINUS 22 TO 185 DEGREES FAHRENHEIT

THE all-important crystal supplied in your G-E 2-way radio equipment earns a performance diploma that more than qualifies it for the rugged service you demand in communications. Subjected to testing in the complete range from sub-zero to "hands off" temperatures, the crystal is painstakingly checked for frequency drift and activity. Crystals which drift more than *two-thousandths of one percent* are rejected! Those which fail G-E's stringent activity tests are also discarded.

G.E. starts crystal manufacturing process with x-ray selection of only the finest, faced Brazilian quartz and, in the final assembly, employs cleaning methods that are unique in the industry today. This somewhat lavish and exceptionally thorough preparation is justified by the key position crystals occupy as the *heart of 2-way radio and microwave equipment!*

The end result is a crystal which gives G-E equipment that rock-stable quality for which it is world famous. G-E crystals not only put your communications "on-the-beam" . . . they keep it there for years of service.

Production facilities for G-E crystals are geared to supply this superior product to manufacturers who demand quality crystals for other uses. Write for complete information: General Electric Co., Section 5933, Electronics Park, Syracuse, N. Y.

Call the nearest G-E office for data on this outstanding communications equipment—

Dallas, Texas	Denver, Colorado	Washington, D. C.	Daytona Beach, Fla.	Cincinnati, Ohio
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Tulsa, Okla.	New York, N. Y.	Atlanta, Georgia	Columbus, Ohio	Indianapolis, Ind.
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Los Angeles, Calif.	Philadelphia, Pa.	Montgomery, Ala.	Cleveland, Ohio	St. Louis, Mo.
San Francisco, Calif.		Seattle, Wash.	Salt Lake City, Utah	

Follow the trend . . . replace with G. E.!

GENERAL ELECTRIC

Four more Minnesota cities choose

FWD

CITY OF STILLWATER

CITY OF LITTLE FALLS

CITY OF INTERNATIONAL FALLS

VILLAGE OF COOK

Choose the Added Protection of Extra Traction to protect your community

Throughout the nation, the trend is to FWD Fire Engines. In both rural and urban communities, crews know they can depend on four-wheel-drive traction to help save time on every run. FWD provides maximum safety for crews, equipment *and* other vehicles. FWD equipment and accessories also deliver extra action and dependability at the blaze.

Write for the new book—"FWD Fire Engines." It pictures and describes the types of FWD equipment selected by many typical progressive communities. Helps you select equipment for your specific needs.

THIS IS WHY YOU NEED FWD EXTRA-TRACTION

SAFER CONTROL IN TRAFFIC — Start faster. Positive control permits greater speed. Avoid accidents because 4-wheel-drive assures superior steering.

REACH OUT-OF-THE-WAY PLACES — Get through to water supply in hard-to-reach sections. Drive over terrain that stops the conventional fire truck.

FULL CONTROL ON SNOW AND ICE — With front wheels pulling and back wheels pushing—drive swiftly, safely over icy or snow-blocked streets and roads.

STEEP GRADES, MUD, SAND NO OBSTACLE — Drive hub deep through sand or mud. Pull up steep, slippery grades without losing speed. Save valuable time.

Built by the Makers of America's Foremost Heavy-Duty Trucks

THE FOUR WHEEL DRIVE AUTO CO., CLINTONVILLE, WIS., *Canadian Factory:* KITCHENER, ONT.

for RUGGED DUTY !

MIDWESTERN PROTECTIVE CLOTHING

The overwhelming preference for Midwestern Protective Clothing is the result of outstanding performance when the going is tough and the chips are down. The superior quality, design, fabric texture and many exclusive features found in Mackinaw Coats and other Midwestern garments help increase your department's efficiency and provide extra protection for your men at the scene of the blaze. There is no substitute for the expert workmanship, built-in comfort and longer wear you get by specifying Midwestern.

PROTECTION—COMFORT—SERVICE

You will find the type of fabric exactly suited to your needs in our wide selection of rubber materials. You can absolutely depend on the softness and flexibility of these high grade materials to meet your most exacting requirements for lasting comfort, rugged service and greater efficiency on the job.

For complete information on our full line of firemen's protective clothing, see your Midwestern dealer. A letter to the factory will also bring you literature and material samples for your inspection.

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

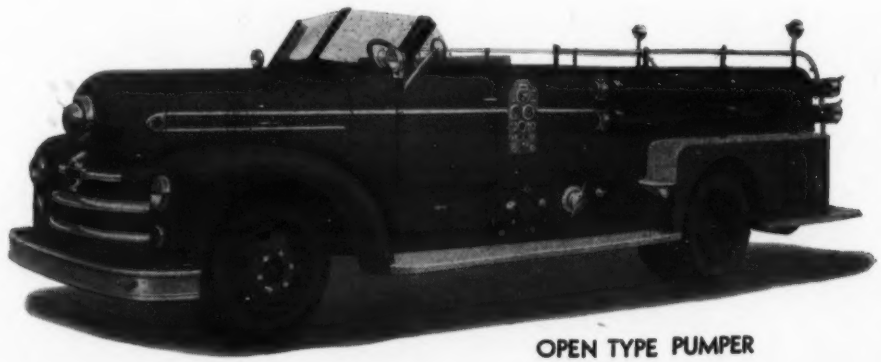
CHECK THE SPECIFICATIONS

PUMPER—

Modern V-type Engine	√
All Bronze Centrifugal Pump	√
Positive Vacuum Pump	√
Auxiliary Cooler (self-contained)	√
Power Brakes	√
Power Steering (optional extra)	√

AERIAL—

Modern V-type Engine	√
All Steel Aerial Ladder	√
Positive Locks on Each Section	√
100% Hydraulic Operation	√
Hydraulic Ground Jacks	√
Power Brakes	√
Power Steering (optional extra)	

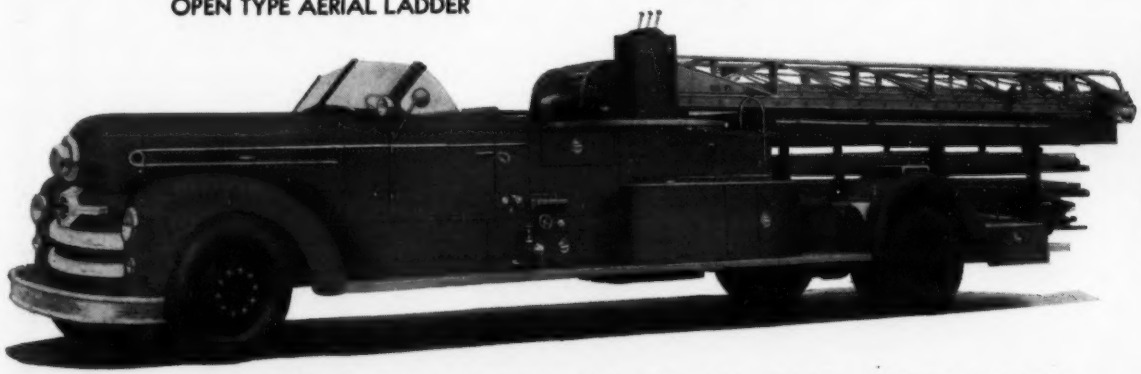


OPEN TYPE PUMPER

Seagrave standards of quality are famous the world over . . . and it costs you nothing extra for the expert engineering and fine workmanship that go into every piece of Seagrave Fire Apparatus.

Remember . . . a Seagrave is ALL SEAGRAVE. It is built for fire service and for no other purpose. Engines are Seagrave, bodies are Seagrave, pumps are Seagrave, ladders are Seagrave, frames and other principal parts are Seagrave. They are precision made to work together to give your city the finest and most dependable fire protection that money can buy.

OPEN TYPE AERIAL LADDER



Seagrave

THE SEAGRAVE CORPORATION
Columbus, Ohio

Bickle-Seagrave, Ltd., Woodstock, Ont.

THE GREATEST NAME IN FIRE APPARATUS

STOP FIRES FASTER

STOP EXCESSIVE WATER DAMAGE

with JOHN BEAN HIGH-PRESSURE FOG

John Bean High-Pressure Fog has triple fire-fighting action. It cools, it isolates, it smothers. One gallon of water converted into high-pressure fog has the fire quenching capacity of ten gallons discharged as a conventional stream. With John Bean High-Pressure Fog you can extinguish 90% of your fires faster with 90% less water. When the fog goes in, the fire goes out.

The Original John BEAN High-Pressure Fog Firefighter

Develops 850 pounds pump pressure and delivers 650 p.s.i. at the nozzle.

The New John BEAN High-Pressure Fog and Volume Firefighter

Gives you famous Bean High-Pressure Fog plus a volume pump that delivers approved Underwriter's streams . . . 500, 600 or 750 gallons per minute.

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Dept. 126
Lansing 4, Michigan

JOHN fmc BEAN

John Bean Division
P. O. Box 145
San Jose, California

ORIGINAL HIGH-PRESSURE FOG FIRE-FIGHTER — *Can be mounted on most standard truck chassis*

A PRODUCT OF FOOD MACHINERY AND CHEMICAL CORPORATION

Fire Fighter here discharges FogFOAM onto burning gasoline through 2½" FFF Nozzle.

FogFOAM *puts smothering blanket over flaming liquids*

Rockwood Nozzle Turns out Perfect Proportions of Foam, Air and Water to put out highly volatile flammable liquids; action is instant

Just 3 parts of Rockwood Double Strength Foam added to 97 parts of water, and you've a special "mix" that's death to fire.

It does its job through a special Rockwood FogFOAM nozzle that turns it into smothering FogFOAM. You get far greater fire fighting extinguishing action than ever possible with old style chemical or mechanical foam equipment.

Tank-truck and airplane crash fires — fires aboard ocean going tankers — fires in refineries and industrial plants — are quickly and effectively smothered.

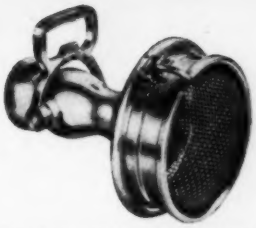
What's more, Rockwood Double Strength FOAM is faster spreading, flows freely at sub-zero temperatures, will not corrode and can be easily washed away after fire is extinguished.

Rockwood proportioning systems automatically control ratio of FOAM liquid to water ensuring proper proportioning regardless of number of nozzles used. They can be custom engineered to your requirements.

Plan now to have a Rockwood Engineer recommend the right fire fighting equipment to meet your needs. Mail coupon below.

ROCKWOOD **ROCKWOOD SPRINKLER COMPANY**

Engineers Water . . . to Cut Fire Losses



Rockwood Type FFF FogFOAM Nozzle with FogFOAM Screen available for service on 1½", 2½", 3½" fire hose lines. Nozzles discharge Solid FOAM (with shaper), and High Velocity WaterFOG as well as FogFOAM (with screen). Range of FogFOAM with shaper approximately 60 feet, with screen 30 feet.

Fleet of Tankers is equipped with FFF Nozzles and proportioning system. Shown here, FogFOAM being discharged on deck and water during test. Ships must be protected from spill fires on water as well as aboard ship.

Rockwood Double Strength Foam — available in 5 gallon cans or 50 gallon drums. Tested by Underwriters' Laboratories.

SEND FOR THIS ILLUSTRATED CATALOG

ROCKWOOD SPRINKLER COMPANY
54 HARLOW STREET
WORCESTER 5, MASS.

Please send me Rockwood's illustrated catalog on the complete line of cost cutting, efficiency-boosting products for modern fire fighting.

Name.....

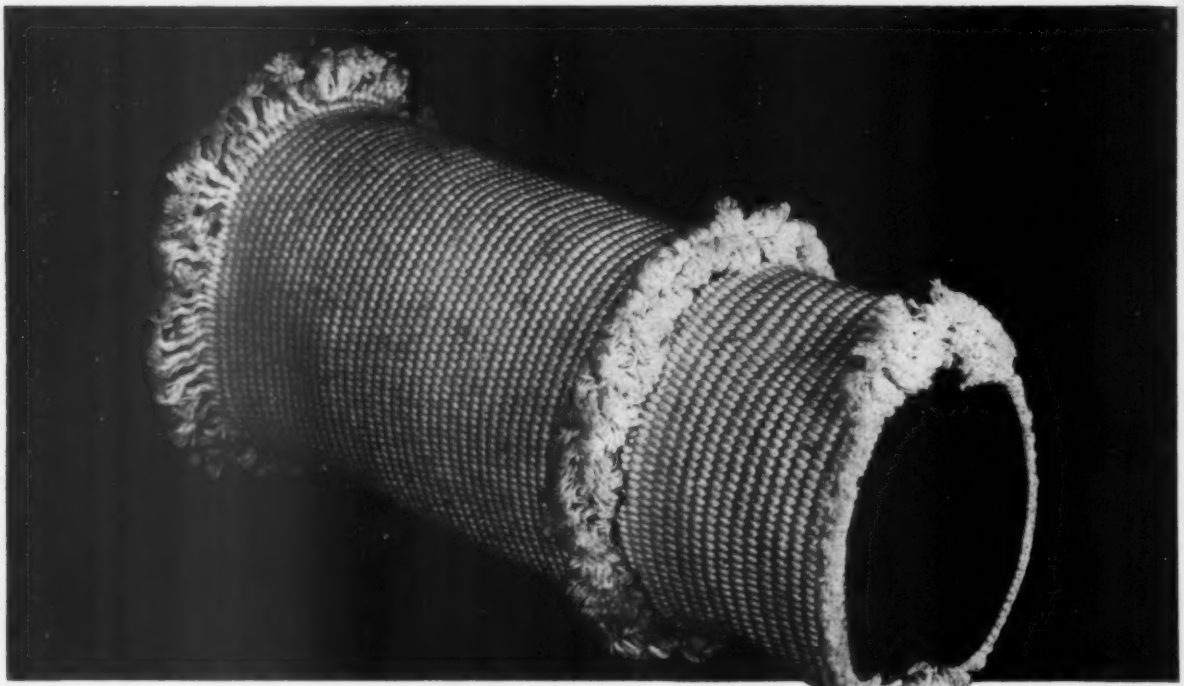
Title.....

Company.....

Street.....

City.....

Zone.....State.....



FLEXIBLE

HEWITT-ROBINS

Bi-Roll Municipal Fire Hose

Here's the hose that gives you the flexibility and safety you need for fighting fires . . . Hewitt-Robins Bi-Roll municipal fire hose.

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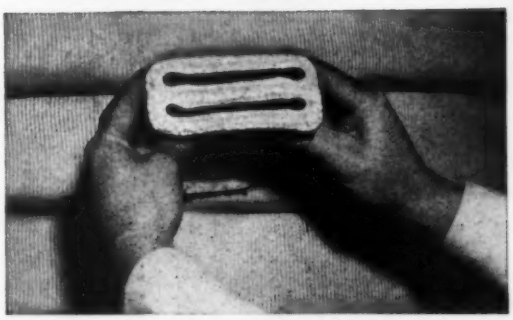
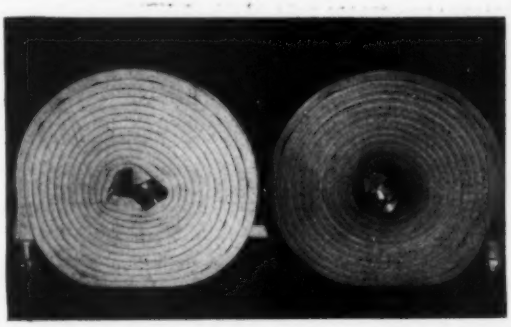
For complete information about Hewitt-Robins Municipal Hoses . . . Bi-Roll—Chemical Booster—Fog—Suction—Street and Sewer Flushing, contact Municipal Fire Hose Division, P. O. Box 974, Buffalo 5, N. Y.



Bi-Roll . . . provides greater over-all flexibility because of its non-vulcanized point-of-fold construction . . . permits a flatter fold under light pressure . . .



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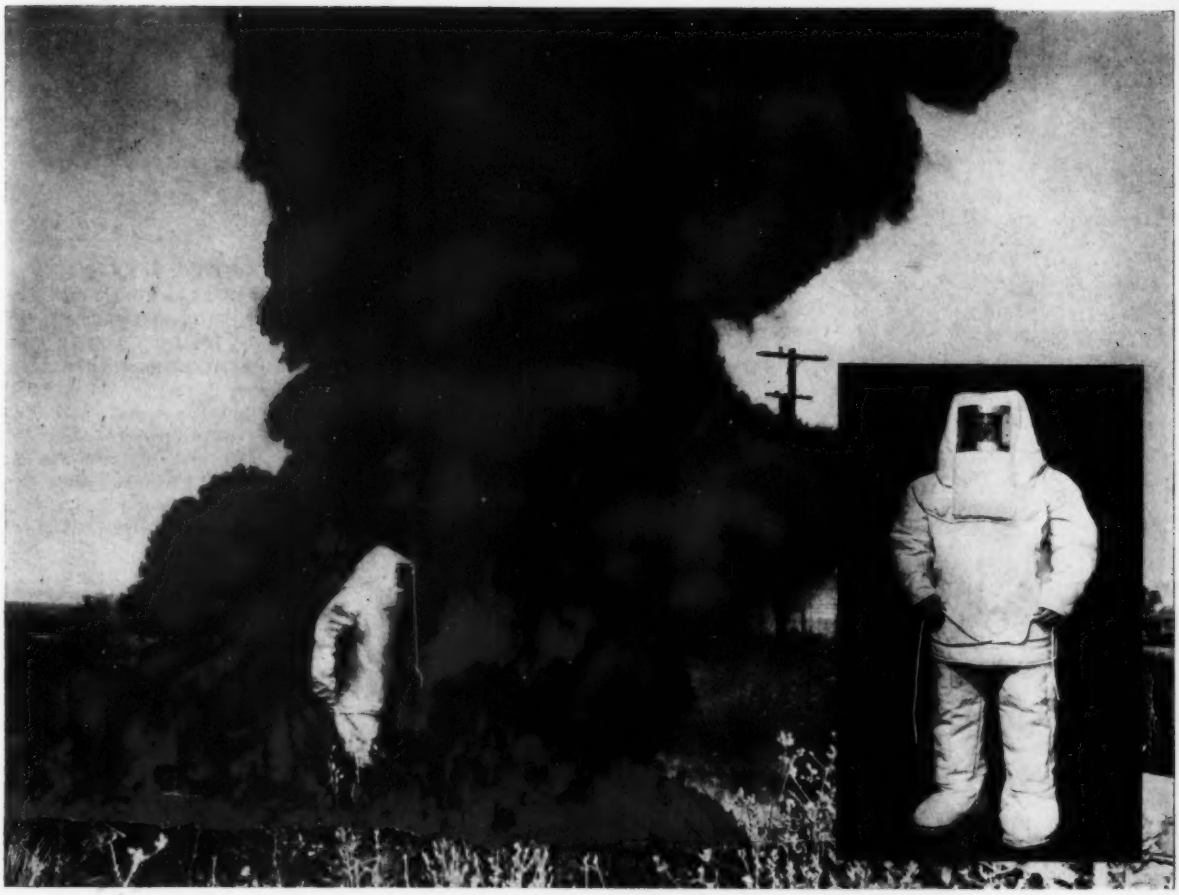

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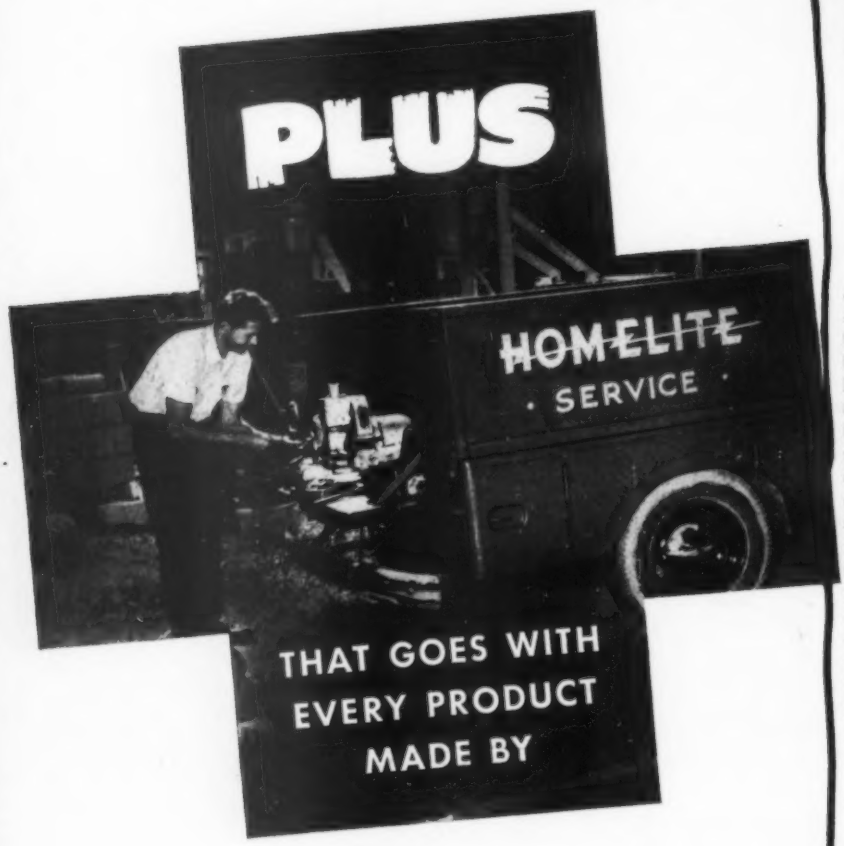

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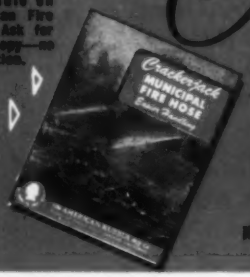

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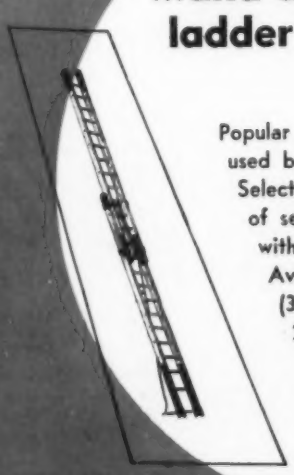

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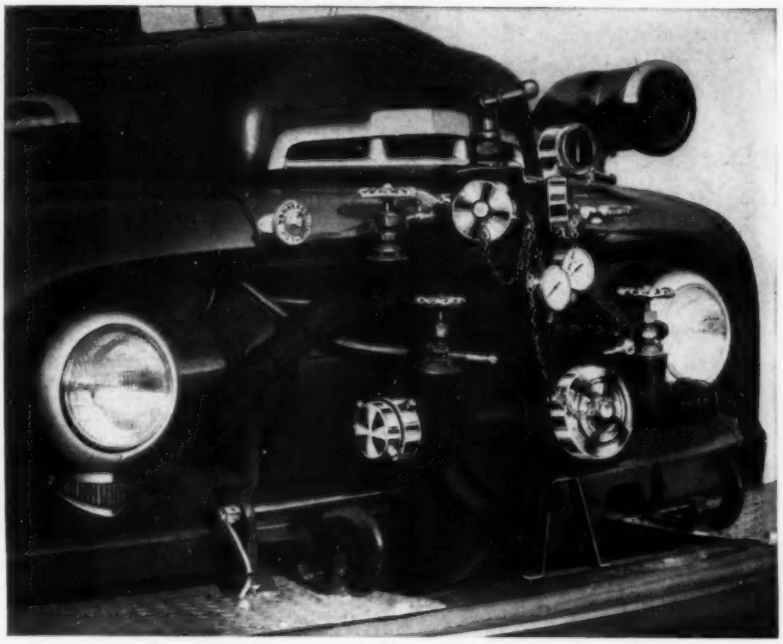

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Problem—Your community needs additional fire protection—but the "budget" is already strained?	**Solved**—You can get a pumper with powerful, top-quality Barton-American Front-Mounted Pump for a minimum investment!
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Problem—Need a pumper to handle grass and brush fires economically—as well as buildings and larger fires?	**Solved**—With a UA Pump, your engine costs less to buy, less to operate, less to maintain—yet fights fires while moving.
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Problem—Does your climate make extra summer engine cooling and winter frost-proofing necessary?	**Solved**—The Barton-American UA Pump is frost-proof—and gives engine extra summer cooling.
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The QUAD-WAY Fog Nozzle is a combination of years of research, careful precision engineering and practical experience.

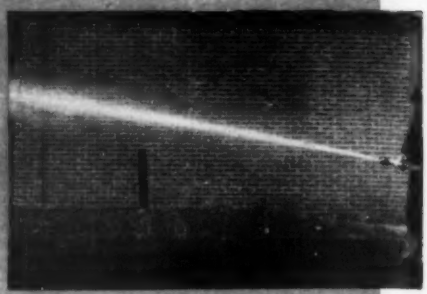
QUAD-WAY® FOG NOZZLES

FIRE FIGHTERS' CHOICE FROM COAST TO COAST

The speed with which the fireman can change his attachment to meet quickly changing conditions often makes the difference during a fire. Quad-Way's quick versatility, its ability to fight fire four ways, gives the fireman a choice of streams ranging from a dense vapor-fog to a solid straight stream and a combination of both. Built by America's outstanding producer of fire-fighting equipment, the QUAD-WAY gives the firefighter every stream needed — right at his fingertips.

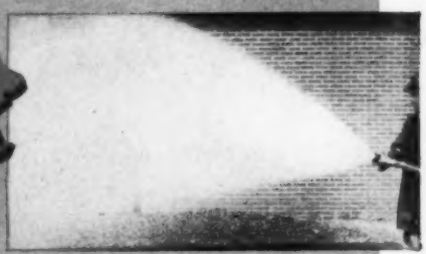
TRUMPET QUAD-WAY FOG GUN

Made for your standard booster lines in both low and high pressure work. Provides same selectivity — a solid straight stream, dense fog mist, or a combination of both to any varying degree.



FULL SOLID STRAIGHT STREAM

The construction of the QUAD-WAY produces a more efficient stream because of the added length of the solid stream orifice and the scientifically broached interior.

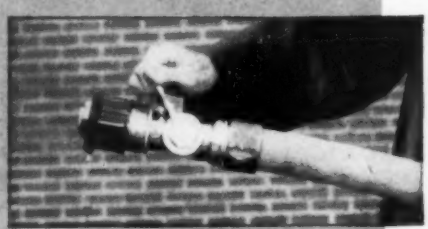


VAPOR OR FOG-MIST ONLY

This nozzle has a range of 20 to 160 angle inclusive. The fog-mist pattern is dense, not hollow, throughout its entire range.

SOLID STRAIGHT STREAM AND WATER CURTAIN COMBINATION

This safety feature enables the man to protect himself from excessive heat, smoke and poisonous fumes, and continue to fight the fire.



COMPLETE SHUT-OFF

The solid stream and fog-mist operate by separate conventional shut-offs. The valves are so carefully engineered that they can work instantly yet provide a leak-proof seal.

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Whether you are a manufacturer, dealer or user of gasoline engine powered equipment — you are assured of top performance when you specify BRIGGS & STRATTON 4-cycle, single cylinder, air-cooled engines. They are the "preferred power" value all over the world.

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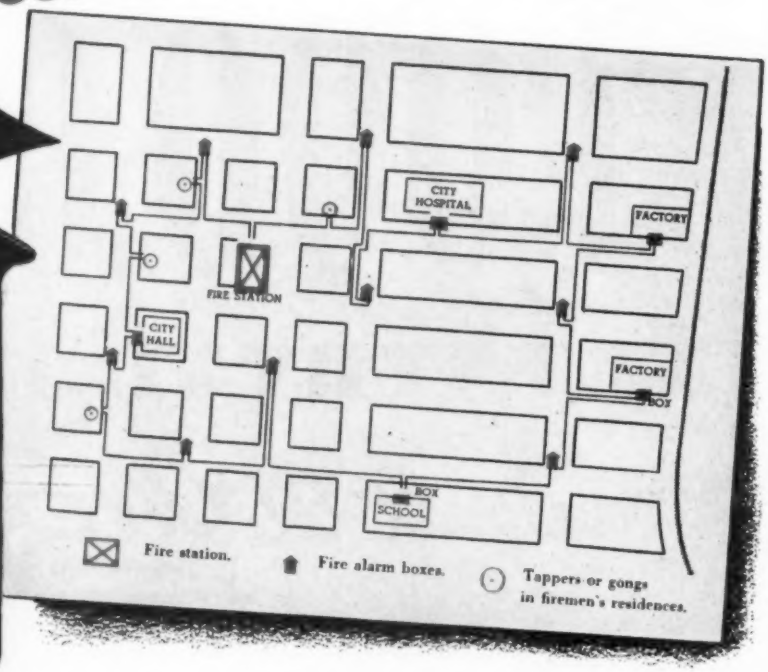
BRIGGS & STRATTON 4-cycle, single cylinder, air-cooled engines are available from ¾ to 8¼ hp. — in many models and types. They are preferred power for hundreds of types of machines, tools and appliances. All are backed by a world-wide service organization, factory supervised, unequalled in the industry.

In the automotive field, too, Briggs & Stratton is the recognized leader — and the world's largest producer of locks, keys, and related equipment.

A Big City Fire Alarm Box System for the Smaller Community —at a cost within reason



The fire alarm box system gives you positive, *instant* communication with the

FIRE DEPARTMENT
FIRE CHIEF • VOLUNTEERS
RESCUE SERVICE

— announcing the *location* of the fire when the fire alarm box is pulled.

Your community can now have all the advantages of a big city fire alarm box system. In most cases the installation will give extra advantages, frequently contributing to a reduction in insurance premiums. As the community expands, your fire alarm box system need not become obsolete. It can be extended on a circuit-by-circuit basis, to avoid a heavy investment in any one year.

Remember that every conflagration *starts* as a small fire. Keep small fires small — the fire alarm box provides instant communication for automatic organization of your fire defenses at the *source of the fire.*

Last year's fire loss amounted to over $730,000,000, most of it needless waste.

THE GAMEWELL COMPANY
NEWTON UPPER FALLS 64, MASSACHUSETTS
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GAMEWELL®

THE BOX IS POSITIVE

Reduces Human Error

MARCH, 1953 FIRE ENGINEERING VOL. 106, NO. 3

With the Editor

TV—and F.D. Public Relations

Many things have had their impact upon the nation's fire service in the last decade, such as short-wave radio; almost universal adoption of water-fog and fog foam, and metal ladders. Other developments are in process, such as wet water and new vaporizing fire extinguishing liquids; still others are in the blueprint stage.

In the latter group is television. Not so many months ago FIRE ENGINEERING reported the story about fire fighters of a large city who watched on their fire station television sets the struggle of their fellow firemen to control a serious church fire. And a little later, countless thousands of television watchers, including firemen in their stations throughout the nation, thrilled to the sight of a battle royal between a roaring fire and fire fighters of another large city which, unfortunately, cost the lives of several firemen.

Dramatic? Of course! But it is doubtful if those TV observers had any realization of the portent and vast possibilities of this modern scientific marvel which they were enjoying.

Television is today as much a part of the lives of its 65 million and more users as is electricity. Already its bizarre applications to mass as well as specialized education and enlightenment are becoming apparent in industry, medicine, science, law enforcement, and in politics.

In an industrial plant a man stands watching a television screen on which unfolds a manufacturing operation in a remote part of the factory. The observer pulls a lever, pushes another, and the entire operation changes at his command.

It requires no great stretch of the imagination to envisage this man, a fire officer, watching and governing the operations of extinguishing a serious fire, perhaps miles away.

This is no Jules Verne vision. Already fires are being televised on the fire ground by the steadily growing number of TV Stations; already elements of the fire service contemplate such use of this medium (see Paul Ditzel's column in this issue).

Television is being used today in firemanship training and for fire prevention promotion. Plans are afoot for its use in in-service teaching. But perhaps most of all, at present, television is bringing to the fire service the priceless opportunity to "sell itself," to build better public relations, to "make friends and influence people." Now, at last, through this magic medium, the horrors of fire, and the work and heroism of the fire fighter, can be brought dramatically into home, office and workshop.

Among students of this most revolutionary innovation, the conviction is growing that nothing since the advent of CRL fire hose and the pumping engine, has had, or will have, as great an influence upon the fire service as television. At the same time, they realize its negative possibilities—the power to develop *un*favorable reactions as well as favorable ones through improper use of this medium.

A graphic example of this recently occurred in a large Eastern city which had repercussions as far away as 3,000 miles. Ironically, this happened in a city where firemen have been strenuously campaigning for better wages. In this city, promoters of the firemen's cause were happy to have a fireman included as contestant on a national quiz program. In the show the quizmaster puts contestants through a series of questions and in the "warming up" process the supposedly hand-picked fire fighter was asked what firemen do between fires. His answer was: "Sit around the station reading or playing with the dog."

An audience of maybe as many as 20 million persons witnessed this program, heard the fireman's not-so-smart reply. Perhaps he meant to be funny. Perhaps, like others before him, he was "mike shy." But one thing is certain, he had not been coached in the gentle art of better public relations. And so, in a day and age when students of the fire service are making every effort to bring better understanding and appreciation of the fire service, and modern firemanship to the people who must support this service, a single ill-considered statement bids fair to cancel out much of the promotional effort thus far attempted.

This fireman and his fellow-workers are still plugging for better working conditions in a city that is paring its budgets to the bone. It is to be hoped their TV excursion has not jeopardized their cause. At the same time, the experience may well serve as a warning to other fire forces that this fantastically fabulous medium can be a *bane* as well as a *blessing* if unqualified and uncoached members of the fire service are permtted to "sound off."

Fred Shepard

Pre-Planning Proves a Factor In Controlling Cannery Fire

Area Fire Fighters are Handicapped by Building Hazards and Delayed Alarm

Editor's note: The editors are indebted to Fire Chief Gregory E. Teaby, Monterey, Calif., Fire Department, and the Pacific Fire Rating Bureau, for the information upon which this Special Report is based. Acknowledgment is also made of the excellent photographs of the fire by Wm. L. Morgan, Monterey Fire Department photographer, who arrived at the scene about the same time as the first fire company. While this fire occurred approximately a year ago the lessons which it presented will prove useful and interesting to the fire service.

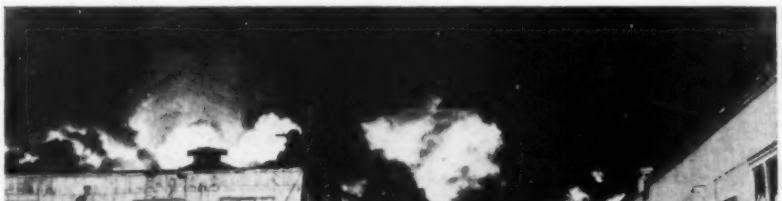


Photo by William L. Morgan

Involvement of Westgate-Sun Harbor Packing plant, Monterey, Cal., when fire extended over railroad right-of-way. Picture was taken before water was applied.

GENERALLY, food packing plants and canneries are considered poor risks by insurance underwriters. Construction is usually combustible and sub-standard, measured by fire safey viewpoints; location is in most cases somewhat removed from municipal fire protection facilities and plant fire protection such as fire detection, alarm transmission and automatic sprinklers is lacking.

In the manufacturing classification, according to the N.F.P.A.'s Handbook of Fire Protection, packing plants are topped only by flour mills and elevators, metal workers, and wood workers, in fire losses (out of 28,800 fires with total loss of $79 million, there were 800 in this group, in which losses aggregated $1,640,000.)

In considering fires in this category it is well to bear in mind two other important facts: a high percentage of fires in packing plants and canneries result in total loss and, secondly, the actual economic loss in such fires is much greater than is indicated by the actual property dollar loss in plant and contents. That is particularly true in times like the present, when the nation is at war and is stockpiling food products.

The serious fire in the Westgate-Sun Harbor Packing Company, Monterey, Calif., is a case in point.

Occupancies

The company is a national concern, the Monterey plant being used to can fish and produce fish meal and fish oil. At the time of the fire the tuna season was about over and the warehouse was full of canned fish awaiting shipment. No fish had been packed for several days prior to the fire because the fishing fleet had been held in the harbor by bad weather. Warehouse operations were conducted the day before the fire.

The Monterey plant consisted of the cannery, located at 758 Ocean View Ave. (see diagram), a large warehouse 60 feet west across the street at 757 Ocean View, and a second warehouse 55 feet west thereof, across the Southern Pacific right-of-way, at 750 Wave Ave. As shown on the diagram, the three structures were connected at the second story level by enclosed passageways.

The cannery at 758 Ocean View was a 1½-story corrugated iron structure with composition roof, and first story floor area of 51,000 square feet. This was not involved in the fire. The warehouse at 757 Ocean View was a 2-story corrugated iron structure, composition roof on wood sheating, and a first floor area of 20,400 square feet. The exterior walls were corrugated iron on 2-in. x 6-in. studding. The first floor was concrete, the second was 1-in. T & G surfaced with diagonal-laid 1-in. x 6-in. planking, all supported by 3-in. x 12-in. joists and massive wood columns and beams. An open stairway near the watchman's room connected the two stories. Open chutes also cut the second story floor. Most of the building was open construction. A single thickness 1-in. board and 2-in. x 4-in. stud partition cut off the north 30-ft. section of the main floor, which section was occupied by the Universal Canning Machine Co. A similiar partition cut off a small storage room, used as a watchman's headquarters the night before the fire. Electric wiring was in conduit.

The passageway east, across Ocean Ave. to the cannery, was 12-ft. wide

Photo by William L. Morgan

Overhead passage-way collapses at Monterey cannery fire. Firemen were forced to use hand lines while operating on railroad right-of-way, to prevent involvement of hazardous oil tanks and other exposures.

Photo by William L. Morgan

Delayed alarm resulted in involvement of two warehouses in Westgate-Sun Harbor plant fire. Nevertheless, firemen prevented involvement of exposures seen in this picture, taken before water was started.

and had 1-in. T & G floor, corrugated sides on a diagonal wood truss framework, and a composition roof on wood sheathing. A manually operated, single thickness, sheet metal door at the cannery end of the passageway served as a draft stop. Draft stop boards were also placed on the conveyor when it was not in operation. The door was closed and draft boards put in place prior to the discovery of the fire. Neither the door nor the boards had any appreciable value to check passage of heat, but they did cut off draft and, according to the Rating Bureau, probably saved the cannery.

The passageway west over the Southern Pacific Railroad right-of-way to the warehouse, at 750 Wave St., was similar in construction to the one across Ocean View, but did not have draft stop door and the passageway served as a funnel to carry the fire across the 55-ft. open space (see picture). This passageway was destroyed by fire.

The property at 757 Ocean View was used largely for warehousing canned fish. Some cans were packed in paper cartons, some tiered on wooden platforms. Paper cartons, labels and supplies were also stored. An electric power grinder was installed in the building. Fish meal blown from the main building in a metal pipe, was ground in 757 Ocean View and then blown in a metal pipe to 750 Wave, where it was sacked and stored. This process reportedly had not been in use for some time prior to the fire. The machine shop of the Universal Canning Co. did repair work to cannery machinery and was not involved in the fire, although it did suffer water damage.

The warehouse at 750 Wave St. was a 2-story, corrugated iron structure, with first floor area of 8,075 square feet. It was similar in construction to 757 Ocean View, except that the north wall was frame stucco and the second floor joists were 2-in. x 12-in. The first floor was used for storage of fish meal in paper sacks and fish oil in large metal tanks. Three of these tanks were on the main floor and formed part of the exterior wall of the building. Eight tanks were on the mezzanine. The second story was used for sacking fish meal and storage of supplies.

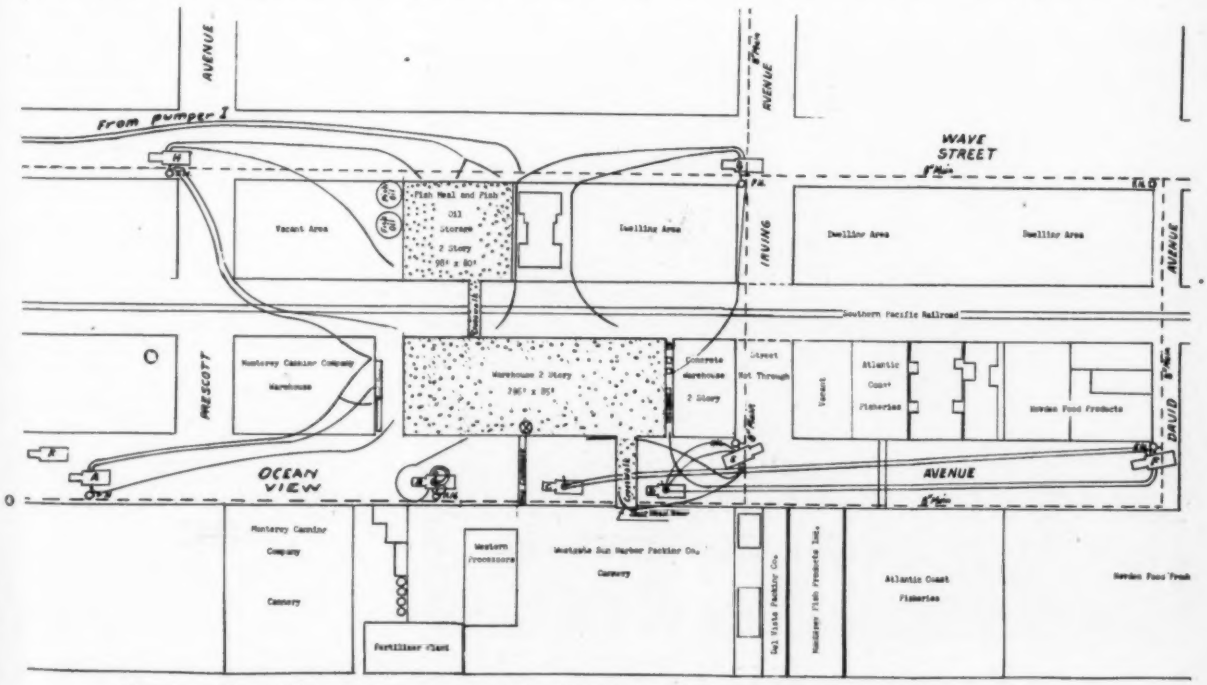
It was noticeable there were no fire detection devices in the building, and no standard watchman and clock service. An employee with previous watchman experience was assigned to night watch duty several weeks before the fire. He punched a time clock when he went on and off duty but did not carry a watchman's clock on tours of the plant. His small office on the main floor of 757 Ocean View was heated with a U. L. portable electric heater.

Cause and Description of Fire

The fire is believed to have started in the watchman's headquarters in the first story of 757 Ocean View. From here it burned through the second floor above the office, spreading through the second story ceiling. It was further aided by the nearby open stairway to involve the entire second story, from which it communicated to the enclosed second story passageway to 750 Wave St.

The watchman, who was the last person known to be in the building, could give no explanation for the fire. Investigators consider the cause might have been either discarded smoking materials or ignition of materials in contact with the electric heater. An unexplained detail is the discovery of a discharged chemical extinguisher, found later near the watchman's headquarters.

The watchman reportedly checked out at 6:34 A.M., and the first alarm was



Pumping engine and hose line arrangements at the Westgate-Sun Harbor warehouse fire. Dots show burned area.

received by the fire department at 7:14 P.M. According to reliable witnesses, smoke was visible for a distance of several miles soon after 6:45 A.M. As freight trains and industrial stacks sometimes produce heavy smoke in the vicinity, none of these early witnesses saw fit to turn in an alarm. Nor were any close enough to identify the smoke as that of this fire.

A box and a telephone alarm were received almost simultaneously by the department, and the equipment from the fire station nearest the plant responded promptly, to find on arrival the upper floors of both warehouses involved and burning fiercely. A general alarm was turned in at 7:16 A.M., to which all the Monterey equipment responded and which called out off-shift men. This set in motion, also a pre-arranged mutual aid plan which brought fire departments in the vicinity into action.

Fire officials were fully aware of the hazard created not only by the Westgate-Sun Harbor plant, but the congested area of fish canneries in which it was located. They had weighed the possibilities of a serious fire in the area and planned accordingly. Therefore the mutual aid response was prompt, and efficient, part of the responding outside forces reporting direct to the fire and others covering-in, at Monterey fire stations.

Fire Chief Gregory Teaby soon had adequate equipment and manpower at his disposal and he deployed his forces to confine the fire by surrounding all sides of the two burning buildings. His assistants were assigned sectors of operation and heavy streams were brought to action as rapidly as possible.

Two trucks, equipped with 1¾ in. turrets were stationed on Ocean View Ave. so they could direct heavy streams onto the fire. The turret pipes were each fed by three 2½-in. lines. At 7:45 A.M. a special call was made for a Pacific Grove truck equipped with a 1¾ in. turret. This was fed by two 2½-in. lines. Sixteen single 2½-in. lines were also laid, together with two 1½-in. lines. The Monterey forces used 1¼-in. tips on its lines, and the other departments used 1-in. or 1⅛-in. In addition, two 2½-in. lines were siamesed to the 1½-in. lines.

As soon as a line could be stretched, firemen entered the second story of the cannery by ladder, and fought the fire that had entered at second story level via the enclosed passageway to the warehouse at 757 Ocean. Aided by the enclosed draft stop door, which had slowed down the progress of the fire, the crew was able to hold the fire at that critical point. Later investigation disclosed that actual combustion had occurred along about two-thirds of the length of the passageway. This was saved.

Photo by William L. Morgan

Packing plant fires may call for heavy streams like this. Turret stream, fed by three 2½-inch lines, covering lower side of main Westgate-Sun Harbor warehouse at costly fire.

Effective work of fire fighters also prevented extension of the blaze to other exposures, some only a few feet away. Owing to the heat and complete involvement of the two buildings however, men were unable to enter either structure; in fact, they had difficulty getting some hand lines into close operation on the blaze.

Both buildings were practically destroyed. Second story walls were consumed or damaged beyond repair. Most of the second story floors were consumed, as were first floor walls. The entire stock of both warehouses was involved either by fire, water or smoke damage. Some salvage, however, of contents was effected by Underwriters Salvage Company. The loss originally estimated at $1,220,000 was later revised to $985,000.

Photo by William L. Morgan

No delay should be lost in salvaging canned foodstuffs. Here canned fish is being salvaged from top floor ruins of main Westgate-Sun Harbor warehouse.

Chronology of Alarms and Response

7:14 A.M. First alarm.
7:16 A.M. General alarm.
7:45 A.M. Special Call, Pacific Grove, one pumper with turret.

Mutual aid units responding on the general alarm were not logged in at the fire, but all stations were close and probably responded prior to 7:30 A.M. Companies in action were as follows:

1000 GPM Pumper, Monterey (A) (on diagram)
1250 GPM Pumper, Monterey (B)
750 GPM Pumper, Pacific Grove (C)
750 GPM Pumper, Monterey (D)
1250 GPM Pumper, Monterey (E)
1000 GPM Pumper, Navy Line School (F)
750 GPM Pumper, Pacific Grove (G)
1250 GPM Pumper, Monterey (H)
750 GPM Pumper, Navy Air Station Hose Wagon, Monterey
750 GPM Pumper, Fort Ord (Pump not used)

Weather at the time was favorable

(*Continued on page 251*)

Arson Investigation

2. Investigating Arson Fires

By BERNARD W. MULCAHY
Chief, Fire Prevention Bureau, Cleveland, Ohio

ARSON is a peculiar crime and one of the most difficult on the statute books to prove in court. In presenting an arson case to the prosecutor's office, the investigation must first establish the following facts:

Odor of petroleum products may persist even after wood has been charred.

1) The fire occurred on a certain date, in the city or county having jurisdiction.
2) That there was actual ignition and burning of the property in question.
3) That the fire was started by criminal design and could not have been caused by accidental means.

The first point can readily be established by the records of the Fire Department and the testimony of the Chief and firemen who extinguished the fire. A description of the property should contain the time and date of the fire, the location of the property with respect to the City or County in which the fire occurred, the type of building (brick, frame, etc.), all fire insurance carried. A statement from the owner is also an appropriate method of establishing the date of the fire and the City or County having jurisdiction.

Under point two of the summary, it must be shown that there was actual burning and destruction of the property in question. Scorching, blistering, a discoloration by smoke is not sufficient to obtain a conviction for one of the higher degrees of arson. Where prosecution in such cases is instigated, an indictment for attempt of arson is usually sought.

Proof that there was actual destruction may be shown by introducing a statement from the owner as to the value of the property destroyed. Photographs may be introduced, to illustrate or substantiate that there was destruction by fire. Corroboration as to the value of property destroyed may be shown by the Proof of Loss submitted to the insurance company.

The third point that must be proved beyond a reasonable doubt is that the fire was started by criminal design and could not have started by accidental means. It is a rule of law that all fires are presumed to be of accidental origin, unless it can be shown by competent witnesses that the fire was deliberately set. This point must be substantiated by physical facts that can be readily understood by people who have had no training in the causes of the origin and spread of fires.

The investigator must bear in mind at the outset of the investigation that it will be necessary for him to prove by physical facts and circumstantial evidence that the fire was set. He must remember that where these facts are complicated or of a nature not readily understandable, juries will often regard such testimony as the opinion of the witness. Such opinions are not admissible as testimony and the attorney for the defense will point this out. The investigator is, therefore, liable to find it difficult to establish the fact that the fire was started by criminal intent, unless he understands what is required by law to establish the corpus delecti, or body of the crime.

Determining the Cause of a Fire

The first step in any fire investigation is to determine the cause. Only after a thorough investigation should the cause of a fire be given. So far as a plan for such an investigation is concerned, this article is only intended to provide a general outline of what to look for and how to detect unusual or suspicious articles or circumstances which may point to incendiarism.

Generally speaking, before a fire is classed as incendiary, all accidental causes must be ruled out. Fires started from such well recognized causes as defects in the heating or electrical systems, the careless use of matches or smoking materials, open flames or the use of the

Careful handling of articles, which may be used as evidence, is important. Investigator is shown removing a charred can in a manner which will not obliterate fingerprints.

flammable liquids, usually present little difficulty to the trained investigator. However, in many of these cases we usually take the familiar for granted and many fires are determined as accidental when a more thorough investigation would have disclosed suspicious circumstances.

In determining the cause of a fire, there are two principal lines of investigation:

1) The analysis and evaluation of the physical evidence.

2) The testimony of all witnesses or persons who may have information which may be helpful.

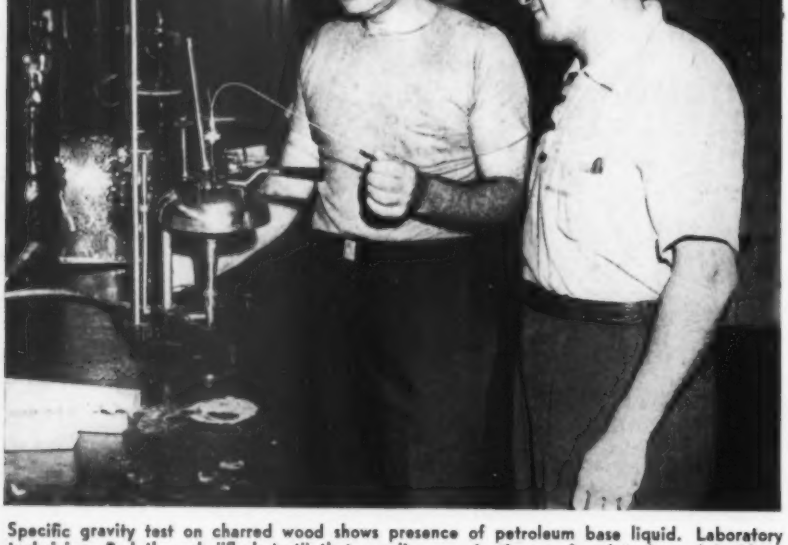
The first step in all fire investigations is the analysis and evaluation of the physical evidence. The usual procedure is to accurately locate the seat of the fire. As a rule this can be done by finding the part or section of the building which suffered the greatest amount of destruction. Then, by tracing in which direction the wood is carbonized and by observing the depth of the char, he can follow the course of the fire.

When the seat of the fire has been found, observe what combustible materials were present at or near the point of origin. Study the spread of the fire, as to its rapidity, intensity and the temperatures generated. Temperatures can be judged by observing glass and metal objects which may have fused and by questioning the fireman who arrived first as to the color of the flame. Glass, zinc, brass and aluminum fuse at temperatures between 1,500° F and 2,000° F and by observing any articles made of these materials, the investigator will have a general idea of the temperatures which prevailed. Also, by questioning the fireman first on the scene as to flame color; dark red flames—temperature around 1,000° F, bright red around 2,000° F orange red to bright white over 2,000° F. This information will help him to determine if a stimulant was used.

The next point for an investigator to determine—whether the fire was a quick free-burning or flash type fire or if it smoldered for sometime before breaking into flame. If the fire was of the quick burning type, determine if a stimulant was used. Also, under normal conditions if there would be sufficient oxygen at the point of origin to support a flash fire. If in doubt that there could have been sufficient air for a flash fire, such as in storage spaces, cupboard or other enclosures, the question arises: Where did the air come from to support such violent combustion? The investigator must try and ascertain if the door leading to the enclosure was open or closed. If open, was this the normal position for such door? Moreover, he must look for holes in the ceiling over the fire; were they made deliberately or did they result from destruction of the building? Hot smoke and gases expand and rise until they find cracks or other openings in the ceiling. These can be located by carbon deposits left by the escaping smoke and gas. Fresh holes or openings can be identified from their shape, and condition of plaster around the hole. Holes deliberately punched are usually clean and smooth, whereas breaks from age and wear are usually jagged and have no regular geometric shape. Fires which have smoldered a long time before breaking out violently usually leave heavy soot deposits on the ceiling and walls; also they deposit a tarry stain on furniture and other articles in the room.

Specially built camera for photographing fingerprints is a useful appliance in arson investigations. It contains its own light, operated by batteries, and takes pictures at a fixed distance.

A well equipped laboratory and capable technicians are essential to effective arson control activities.



Specific gravity test on charred wood shows presence of petroleum base liquid. Laboratory technicians find through "flash test" that gasoline was in tin can found in burned building.

The next point for the investigator to consider where the evidence indicates a flash fire is: were the goods or materials found in this part of the building of a nature to support such rapid combustion? If, in the opinion of the investigator, the material was not of the free-burning type, then the question arises: was a stimulant used to speed up the fire? Stimulants may be in the form of solids, powders, liquids or a gas.

Flammable liquids are as a rule the most prevalent type of stimulant used in arson cases. Where flammable liquids have been used, a close inspection of the carbonized wood will reveal this fact. The carbonization of wood, where flammable liquids have been applied to stimulate the fire, leaves a distinct mark.

(*Continued on page* 231)

Practical Fire Service Rescue

Part 5 of a Series

By JOE MAHAFFEY*

THERE are several types of rescue apparatus used in the Fire Service. In some cases the truck company is charged with rescue as well as salvage operations, or in vicinities where multiple story buildings are predominant and the rescue of persons is dependent largely upon ladder work or jumping, the aerial crew is designated for first line rescue. This may be necessary because rescue with ladders or jumping requires large crews and teamwork. It takes at least eight men of somewhere near equal height to successfully handle a jumping net. Net jumping, incidentally, is all right for trained personnel who have learned to jump properly. In the actual rescue of untrained persons it should only be used in an emergency. Injuries can easily result when opened nets are visible to panic-stricken persons. On sighting an opened net, people may jump from several windows and elevations at the same time without properly judging distance or the state of preparedness.

In some vicinities, near air fields, the crash truck, carrying booster tanks and fog equipment or Co_2 tanks and equipment, or both, is designated as the rescue apparatus.

In some fire departments the rescue apparatus is built around a pumper with booster tank. The crews of this type may respond to minor fires as well as rescue calls which is sometimes practical in a rural area. This type has its advantages and disadvantages. In any fire response the crew is bound to get dirty. If an inhalator response where sanitary conditions are important were to immediately follow the fire response, dirty personnel, although appreciated, would be a little on the incongruous side. On the other hand, such pumper-rescue apparatus is entirely feasible where the response is made to a vehicle accident involving a gasoline spill, where rescue and washdown are both first "musts," or the cutting torch is to be used.

In some municipalities the Fire Service assumes duties that are usually allotted to parks and recreation departments, road departments, or engineering departments, such as the clearing of road obstructions, heavy demolition, etc. Usually the apparatus used in this case is built around a heavy duty truck of the cab-over, or van, type. It is equipped with a crane and winch motored by a power take-off. It is supplied with cables, becket hooks or butt hooks and chokers, and electric or gasoline driven portable drag saws, compressor and air hammer, electric saws and drills, flood lights, and such heavy duty hand tools as cant hooks, chain tongs, etc., as well as the lighter tools of rescue, resuscitators, stretchers and first-aid equipment. This type of apparatus cannot be classed as strictly rescue but is more in the class of general emergency service.

Some municipalities have charged the Fire Service with the responsibility of ambulance service. In such cases the rescue apparatus is designed to transport victims to hospitals, or the apparatus is merely an ambulance carrying resuscitators and operated by firemen. Unless legal provisions have been made and personnel, the department and the city are properly covered by insurance, it is not advisable that the transportation of victims, other than fire department personnel, should be undertaken with rescue apparatus.

There are many other types of automotive vehicles and motorized units that are used in rescue in major disasters but they are only borrowed or commandeered for particular occasions and are not classed as rescue apparatus.

The above types of apparatus are usually used only in special areas or in municipalities in which the Fire Service has assumed greater duties than those generally allocated to the Fire Service.

Due to the increasing demand for resuscitator service the general trend is toward the use of the three-quarter or one-ton panel truck. It is maneuverable; fast enough; large enough to carry all of the equipment necessary for minor rescue, to handle the little odd emergency services that the public expects of the fire department, and to transport injured personnel in a stretcher when necessary; and, above all, capable of keeping equipment out of the weather which is highly important in rescue work. It is usually manned by one or two firemen and its value has been proven many times over. One man alone can be at a distinct disadvantage in many minor rescue attempts. For the good that this unit can supply to the public, the taxpayers can well afford two men.

Two-way radio greatly increases the advantages of this light apparatus. It keeps the apparatus in service while returning to quarters, makes it possible to correct improperly given addresses during response, and helps personnel to obtain needed extra help or services such as pumper standby, ladders, extra manpower, ambulance service or specialized equipment.

Even when other and larger types are considered important and necessary this unit will pay its own way.

Rescue Equipment

Rescue equipment may range from the pocket knife and flashlight, two items that can be very important to all common rescue, through asbestos suits or diving gear, items peculiar to special types of rescue, to gas detectors for special hazard areas and heavy duty equipment for certain unusual areas.

The need for many types of specialized equipment must be determined by the type of area served and the various types of occupancies within that area. Special types require special study. No fire department can be expected to maintain every type of rescue equipment, but liaison officers should be aware of where any type of equipment that might be necessary to that area can be procured or commandeered immediately in an emergency situation.

The equipment that will be described hereafter is commonly necessary in all areas and should be supplied to all minor rescue apparatus that serves the common rescue calls of the public in any area.

There are six elementary mechanical powers. Three of these are primary: the lever, the inclined plane and the

Firemen adjust their breathing apparatus prior to entering a smoky fire.

*Los Angeles County Fire Department.

Demand type air mask.

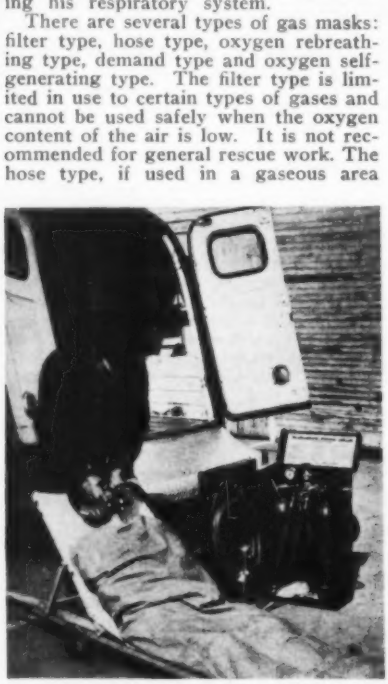
pulley. Three are secondary: the wheel and axle, the wedge, and the screw. All are important in, and have been used in, rescue practices in the Fire Service. It has been said, "With these powers man can move the earth." Those who have been charged with planning for the Fire Service should bear in mind that sometimes, in an emergency situation, "the earth" must be moved in a hurry, and with a shortage of manpower.

The following described equipment is recommended for light rescue apparatus of the panel body type. By bracketing and using the sides and part of the floor space, it can be stored conveniently in an easily accessible manner without overloading and still leave enough floor space to transport an injured fireman in a stretcher when necessary.

Breathing Apparatus

Although not the most commonly used, the gas mask is the most important piece of equipment carried on Rescue apparatus. Artificial respiration can be given manually, impromptu means of first aid can be used, improvised and on-the-scene implements can be used in some rescue; but, when firemen are trapped or overcome in a burning building, or when other persons are overcome in an underground or aboveground gaseous area, no one can safely attempt a rescue without first protecting his respiratory system.

There are several types of gas masks: filter type, hose type, oxygen rebreathing type, demand type and oxygen self-generating type. The filter type is limited in use to certain types of gases and cannot be used safely when the oxygen content of the air is low. It is not recommended for general rescue work. The hose type, if used in a gaseous area



Using the back rest for types of heart cases when victim cannot breathe in any other position.

such as ammonia or toxic gases, can disable the wearer unless the pump delivery is made from an entirely gas free area. Any damage to the hose from heat, sharp edges or falling debris can render the wearer helpless and, in the case of toxic gases, cause fatal results. The necessity of dragging hose about hampers rescue operations. The remaining three are recommended rescue masks and choice is dependent upon workmanship, durability, maneuverability and time element and type of work expectancy.

The first step in knowing any mechanical device or apparatus is thorough study and understanding of directions; second, knowing in full the reason and purpose of its use. To be proficient, these added steps are necessary: continuous drilling in the use of, and periodical tests in, the efficiency of any emergency equipment.

One important fact should always be borne in mind: in areas that are impregnated with a gas that attacks the body through the skin, the gas mask is of little value unless other measures are also used for personal safety. A fundamental knowledge of the actions of hazardous gases and the need for personal protection are essential to the successful use of a gas mask. It is advisable to keep heavy rubber bands and a can of petrolatum in the carrying case.

At least two gas masks should be carried on light rescue apparatus. When it is necessary for one rescue man to go into a gaseous area, he should first tie a rope to himself and trail it in. The second man, standing by, should have a second mask available in case of accident to the first.

If there is an expectancy of the necessity of using the back pack type of mask under water, personnel should

Using one type of instrument for resuscitation or inhalation, with 70 feet of extension hose, when it is impossible or impractical to get the entire resuscitator to the victim.

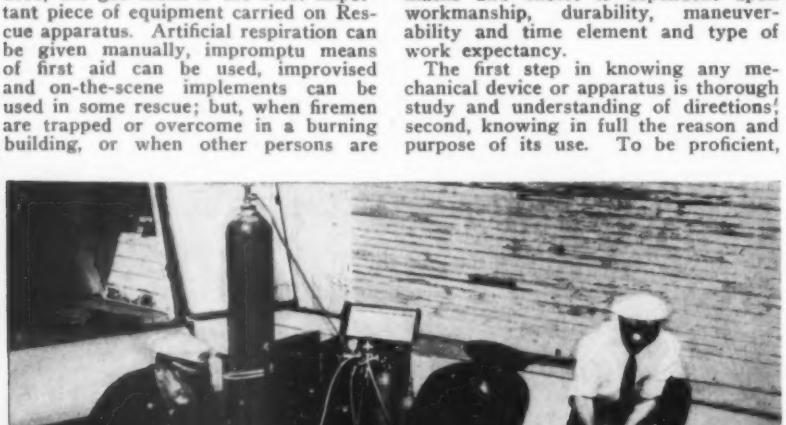
practice before the emergency occurs, many inhibitions and unexpected restraints that he should learn to overcome, may befall the wearer the first time it is used.

Whenever there is suspicion that there is gas or dilution of air, don't take a chance without suitable respiratory protection. Even though the gas is not of an explosive or toxic nature, the dilution of the oxygen content of the air to below 16 per cent can soon render a person unconscious.

To have spare tanks available is highly important, particularly for the type of mask that affords about thirty minutes of breathing.

Resuscitator-Inhalator-Aspirator

The Resuscitator-Inhalator-Aspirator, better known for ordinary description as the "Resuscitator," is the most commonly used piece of mechanical apparatus we have in fire department Rescue Service. Originally brought into the Fire Service for the sole purpose of re-



Treating three victims with one resuscitator.

viving overcome firemen, its usefulness in helping Nature to revive the body, when through accident or sudden illness the body's intricate mechanism fails to function properly, has made its service a public, and ever increasing, demand.

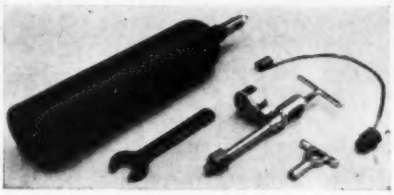
The history of giving artificial respiration by both manual and mechanical means is interesting. From the oldest of all—mouth to mouth—up through the barrel, the board, the bellows, the "lungmotor," the "pulmotor," there was a continual struggle by those interested to bring into being a method of resuscitating the apparently or nearly dead that was effectual and safe. All early methods had their drawbacks, their inadequacies, their reasons for condemnation.

Recharging the small tank.

In 1928 there were placed on the market mechanical devices that started a new era in resuscitation. These devices were an entirely new departure from any device yet conceived. Because of past failures, the field of medical science was slow to accept and approve the use of these machines. Today, however, praise for these devices and their great aid to humanity and to life itself is manifest in all fields of medicine and therapy and among emergency services whose duties are related to the saving of life.

This comparatively new device is a safe and reliable instrument when used by competent operators. A competent operator is one who not only knows how and why the machine operates but what takes place in the human body during the progressive steps of applying its multi-functional uses. This knowledge and understanding on the part of the operator is necessary to obtain and hold the respect of others for, and the confidence of the victim in, the operator. Such confidence and respect are a great factor in helping the victim to help Nature begin the process of recovery. Without such knowledge the machine may have little value. After rescue, the ultimate purpose of the Rescue Service is to deliver the victim of disaster, serious accident and sudden illness to the medical profession in the best possible condition.

To give mechanical artificial respiration when accident or sudden illness has stopped breathing but there is still circulation can prolong life until the medical men has a chance to assist the victim to recovery. To administer oxygen when the victim is breathing but all body functions are failing to the extent that there is a depletion of oxygen in the body can help to sustain life until Nature revives the normal functions of the body. In the Fire Service the administration of oxygen is only intended as an emergency measure. Prolonged cases of oxygen starvation should be hospitalized or at least treated under medical supervision.



Tank testing group gauge and tank connector with machine tooled brass plugs for both commercial and yoke ends.

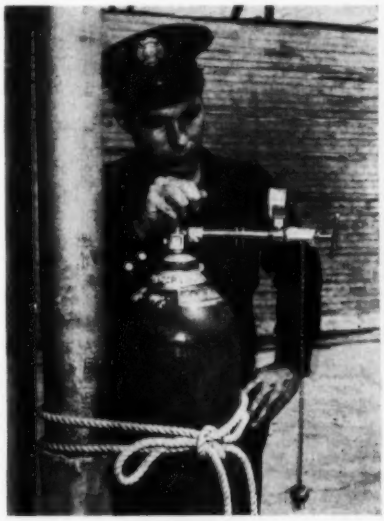
To understand how and why the machine operates, the operator must study the directions and accompanying manuals. To be proficient in its manipulation, the operator must be well practiced. To know what takes place in the human body during application, the operator must have a good knowledge of elementary anatomy.

Checking pressure of large tank with yoke to commercial connector, yoke end plugged.

In studying directions that accompany most machines we find that only one position is recommended. There is good reason for this. For the novice it is better that he learn the reasons and principles for one position and learn them well. Once knowing the principle and having had practice he can use the modern machine effectively with either the machine or victim in almost any position.

The position usually advised by factory directions is to place the victim in a supine position with the shoulders slightly raised by padding and the head tilted back. The reason for this is that such a position affords a straight line through the trachea from the nose and mouth to the bronchial tubes. The directions further advise to press on the larynx slightly with the fingers. The reason for this is to exclude the possibility of forcing oxygen into the esophagus or stomach channel. The esophagus lies flat behind the armored trachea. By pressing on the larynx, the armored windpipe holds the esophagus closed, excluding the entrance of forced oxygen.

It will be found in actual practice that this is seldom necessary and need not be done unless there is suspicion that there is actually gas entering the stomach. It will be found that it is necessary to use both hands to hold the mask tight enough to prevent leaks so the machine will operate. To press the larynx during resuscitation would require the services of a second person.



Testing for leaks.

The easiest and least tiresome method of holding the mask tight is to work at the head of the bed or at the head of the victim if he is lying on the ground. Lay the thumbs along the sides of the mask and hook the fingers under the jaw for leverage. Don't hold pressure points on jaw too long.

Laryngeal spasms or tightening of the throat often occurs during resuscitation operations. A very slight tilting or twisting of the head will often relieve this condition. The best machines, when slowed down, will usually get oxygen through even severe obstructions.

When there is draining, mucous or vomitus, it is better for the victim to be in a prone rather than a supine position. In this case, if the victim is on a bed, the head should hang over the side of the bed and the mask applied from underneath. When the victim is not breathing on arrival, and there is mucous in the throat, it may be more expedient to quickly roll him over for the purpose of draining than to take time to use the aspirator.

There may be occasions as in collapsed buildings, persons in cave-ins or on poles, trees or roofs, where it is impractical or impossible to get the machine to the victim. Foresight in providing hose and Micro heads will pay off on these occasions.

In administering oxygen, when the victim wants to sit up, by all means aid him to sit up and support him: it might

(*Continued on page* 243)

MODERNIZATION PROGRAM GIVES HAMILTON EFFICIENT DEPARTMENT

Old Apparatus Replaced, Reserve Strength Built Up and Operations Streamlined

THE Hamilton, Ohio, Fire Department, Fire Chief George Schlotterbeck, has completed half of its long-range "retooling" program, an enterprise that has, in five years, rejuvenated a long-struggling, undermanned fire force.

On January 1, 1948, the department stood a good chance of losing its fire insurance rating. Equipment was lacking; most of that in use was obsolete. There was no reserve equipment; even necessities such as good hose was in short supply.

Then, with the aid of city officials, the Chief developed what he called a "long range re-tooling program." It was adopted. Each year the budget is set up to take care of any new equipment needed in the ensuing year. Since its inauguration, improvements have steadily been made, and it is now at the stage where the department will need only one major piece of apparatus every two years until all old, obsolete equipment is replaced.

No longer is personnel bothered by bursting hose; the new program established a yearly test system for all hose. Right down the line of small appliances and equipment, the department has been brought up-to-the-minute.

The Chief's office too has had its face lifted; the Fire Prevention Bureau has been housed in an office of its own, and is now in charge of an assistant chief. The files of the Bureau contain a record of every business, factory, church, school and public building in the city, and these locations are inspected periodically.

The department is particularly proud of its three-way radio installation which, the Chief says, enables the department to maintain contact with all units at all times. In addition, it prevents needless runs, and hurries the companies back into service. The department has its own radio frequency and radio operators.

Chief George Schlotterbeck

All fire hydrants have been converted from the old double 2½-in. openings to include a 4½-in. steamer connection. The Water Works is being revamped, too, in accordance with recommendations of the National Board of Fire Underwriters. Standpipes are being installed in the low pressure areas.

During the last few years shop, or industrial, fire brigades have been organized and trained under supervision of ranking officers of the department. These brigades operate under direction of a chief selected from the companies' personnel.

The department has no drill tower, but yearly, during summer months, a training program is undertaken at the City Water Works, an isolated 4-story structure. An Assistant Chief directs all training, which includes hose and ladder evolutions, and simulated fire control problems, with emphasis on use of heavy streams. In wintertime, members are given book work, which includes study of locations, street numbers, etc. Recently the department was equipped with Davy life escapes, and salvage covers, the first time it ever used these necessities. Incidentally, it is a rule that all members must wear helmets, and carry hose straps, during working fires.

Although still undermanned, personnel has increased from 63 men in 1948 to 80 men at the present time. There are six engine companies and two aerial ladder companies, located in six stations. Two additional stations are planned. The weakest element in the department, at present, is the fire alarm system, which is antiquated. The first step in its replacement will be taken this year and within a few years the system will be entirely recreated.

All equipment in the department is standardized insofar as possible. Different tools and appliances are located in the same position on all apparatus. New pumpers have pre-connected 1½-in. lines with discharge valves at the operators' side of the pumps. All older pumps have been changed over and have one 1½-in. preconnected line ready for quick action.

Addition of new pumps has permitted placing three pumps in reserve (two 1000 GPM and one 500 GPM). These are always ready for operation. Off-duty men respond to multiple alarms and man these pumps and one quad. In addition, the City can rely on help from two neighboring volunteer departments, Fairfield and Millville.

This is only a part of the program that has seen rehabilitation of a depart-

(*Continued on page* 240)

Some of the new apparatus of the Hamilton Fire Department.

TWENTY-FIFTH F.D.I.C. MEETING ESTABLISHES NEW RECORDS

Over 1,500 Registered; Many Timely Topics Discussed at Silver Anniversary Gathering

A Staff Report

ALL previous records were broken at the 25th Annual (Silver Anniversary) Fire Department Instructors Conference held in Memphis, Feb. 24-27.

Attendance reached an all-time high—1,525 registrations, from 39 states, the District of Columbia and Canada. Over 100 outstanding leaders assisted by almost the entire Memphis Fire Department from a broad field of fire protection and prevention in 32 states participated in the 41 topics on the educational program.

Fire Chief Klinck presenting to Richard Vernor, chairman and moving spirit of the F.D.I.C., one of two beautiful, engraved silver wine coolers, at the Wednesday conference luncheon.

The Conference was a fitting testimonial to the leadership of Richard Dick) Vernor and his stalwart aides; Emmett T. Cox and Capt. Harry Wolff of the Western Actuarial Bureau, Chicago; J. E. Harman, Missouri Inspection Bureau, St. Louis; and H. A. Ritergod, Little Rock, Ark.; and to Chief John C. Klinck and the officers and men of the Memphis Fire Department who cosponsor the Conference with the Western Actuarial Bureau.

The City of Memphis officially welcomed the visitors in the persons of vice-mayor and fire and police commissioner Claude A. Armour; Fire Chief Klinck; Col. Roane Waring, president of the Memphis Chamber of Commerce and W. P. Wallace, heading the Memphis-Shelby County Council of Civic Clubs. This was the 19th year the City has played host to the gathering.

Col. Harold R. Brayton, Texas A. & M. College, was keynoter of the Silver Anniversary. The scheduled address of Prof. John J. Ahern on how and why fires start was given by Elmer Reske, Cook County Inspection Bureau, because of Prof. Ahearn's sudden illness. En route to Memphis he was stricken by an attack of appendicitis and rushed to a hospital in Effingham, where he underwent an emergency operation. Prof. Ahern urged more complete investigation of fires by fire departments.

Hydrant flow tests were advocated by E. C. Wagner, Chief Engineer, Nebraska Inspection Bureau, Omaha, as the only readily available means for determining water supplies available for fire fighting, in his technical paper "It Comes Out Here."

More than 1,000 delegates and guests enjoyed the first day luncheon, cooked and served entirely by members of the Memphis Fire Department. Chief George R. McAlpine, President of the International Association of Fire Chiefs, Oklahoma City, Okla., Chairman of the session, introduced L. A. Vincent, General Manager, National Board of Fire Underwriters, who in his address: "Two-Way Vision," reviewed the great developments in the fire service over the past 25 years, and pointed to the challenge which lay ahead. "The fire service has made splendid progress," he stressed, "but we can't allow ourselves to stagnate; we must meet the new hazards of a rapidly growing and expanding civilization."

The afternoon session was opened by Hubert Walker, American-La France-Foamite Corp., Elmira, N. Y., who described the latest advances made in equipping fire apparatus with systems for producing air foam and wet water. He used slides to show the different hookups of proportioning and aspirating devices and offered recommendations for their operation and maintenance.

Roy R. Simmons, Chief Training Officer, Dallas Fire Department, told how his department uses I.Q., job-preference and other tests in recruiting and probationary training period of apprentice firemen. Further discussion of the problems of training followed in a panel, led by FDIC vice-chairman Emmett T. Cox, which was participated in by Deputy Chief F. J. Trenner, Baltimore, Md.; Chief Lester H. Schick, Davenport, Ia.; Chief H. G. Lindgren, McPherson, Kans., Fire Department.

How a town of 980 people (Stephens, Ark.) in six years developed a "professional" though volunteer fire department, was the interesting story of Chief Charles T. Reveley's "Big Little Fire Department." In large part its unique success was due to (1) specialized equipment and (2) to intensive training of his businessmen firemen (17 in all).

The second day's sessions started off with a question box panel, which batted around several interesting topics including use of radio; training facilities; cleaning extinguishers, etc. Participating were Quizmaster E. A. Taylor and messrs Brosier, Curtis, Hickson, Hottinger, Patrick and Skelton.

W. E. Rossnagel, Con. Edison Co., N. Y.,—no stranger to FIRE ENGINEERING's readers, told the Conference that industrial fire brigades can be organized on a "job" rather than a "man" basis. He was followed by D. E. Barrett of the Ontario Fire Marshal's Office, who discussed problems in planning civil defense fire protection, after which Ben E. Harris of the University of Alabama, brought the audience to its feet with his impassioned address "Silver Threads."

Rural inspections, an old subject, was given new being, by Harry L. Krieger, Ohio Inspection Bureau, who told about Ohio's experiences in this field.

Handling the public at fires got a many-sided discussion at a Round Table, presided over by Chief Roi B. Woolley, Assistant Editor, FIRE ENGINEERING, aided by Fire and Police Commissioner and vice-mayor, Claude C. Armour, Memphis; George E. Mayer, Pres., Talbot County, Md., Vol. Firemen's Assn.; Easton, Md.; C. O. Richardson, Fire Chief, Tennessee Eastman Corp., Kingsport, Tenn., and H. C. Williams, Bus. Mgr., Underwriters Salvage Corps., Cincinnati.

Speaker at the day's luncheon was Curtis R. Welborn, president of Underwriters' Laboratories, whose theme was "25 Years in 25 Minutes."

The mysteries, hazards and problems that will face the fire fighter in the next quarter century were briefly but dramatically presented by S. J. Rosch, Consulting Cable Engineer, Anaconda Wire & Cable Co., Hastings-on-Hudson, N. Y.

(*Continued on page* 241)

Test of application of water on a large condemned house in Memphis, Tenn. The fire was fought with fog and straight streams.

Massachusetts Fire Conference

The annual Massachusetts Fire Fighting Conference marked the third day of the Union Agricultural Meeting at Worcester, Mass., on January 8.

This event is the only state wide conference held in the state and is particularly well attended by the chiefs of the smaller towns. P. C. Charnock of the New England Insurance Exchange presided.

Speaking at the morning session were: Ex-Chief Samuel Pope of the Boston Fire Department, on "The Fire Service in Civilian Defense"; Allen J. Johnson, consulting engineer, of Landsdowne, Pa., on "The Fire and Explosion Hazards of Gaseous Fuels," and Francis L. Brannigan, fire protection engineer, U. S. Atomic Energy Commission, who spoke on the subject "Atomic Energy in Peace and War."

The afternoon session opened with a talk by Chief Lea Huchinson of Simsbury, Conn., whose topic was "Portable Pumps in the Fire Service," following which representatives of the various manufacturers of Portable pumps, who had exhibits in the hall, were allowed five minutes each to explain the features of their pumps. The second speaker of the afternoon session was Raymond J. Kenney, Director, Massachusetts Division of Forestry, who spoke on "The Burning Index." The final speaker was State District Forest Warden Howard Hurley of Spencer, who described and demonstrated a device which all Massachusetts district wardens have for the detection and suppression of spontaneous ignition in hay barns. This device consists of several lengths of half-inch pipe which screw together and are fitted with a spearlike head which holds a thermometer. The point is probed into a hay loft and allowed to remain for about a half hour. When withdrawn, if the thermometer shows a dangerously high temperature, a carbon dioxide tank is connected to the probe which is then forced back into the center of the hay and a charge of the carbon dioxide released, which cools the material and displaces the air, thus delaying ignition until the hay may be removed.

HENRY T. HANSON

Ladders Save Many in Trenton

Fast and skillful ladder operations on December 2, last, helped to rescue fifty persons, including one group of seven children, when fire swept through a four-story downtown building in Trenton, N. J.

Firemen, responding on three alarms, brought the blaze under control within a half hour, but meanwhile hundreds of spectators witnessed a spectacular demonstration of rescue work. The brick joist structure contained apartments located over retail stores, with outside fire escapes and a single interior stairway. Two large families occupied the second and third floors while the fourth was occupied by three families. Their egress from the structure was a single exit and this was quickly cut off by smoke and fire, forcing most of the tenants to the exterior emergency escapes and windows.

The fire is believed to have originated in the apartment of the building superintendent from an unknown cause. The custodian was not at home at the time, but his seven children were in the apartment. All were led to safety.

The fire was reported first noticed by four employes of a trucking concern in the Earle Hotel, across the street. After sounding an alarm, these men hurried to assist in the rescue work. They helped in the removal of ten persons, including two children, from the fourth floor, and aided other tenants from the floors below.

Meanwhile firemen, who arrived quickly, promptly ran up ladders to the roof, fire escapes and windows on two sides of the building in which occupants were observed. Hose lines were taken into the building in an effort to drive back the fire, which quickly cut off the stairway.

Men, women and children trapped on fire escapes were carried or led down ladders to the street. One rescue involved a two-year old girl who appeared on a third-floor fire escape and indicated she would jump. Firemen shouted to her to stand still and ran up a ladder and brought her down. Other fire fighters began a hurried search for children reported trapped on the upper floors.

Fire Chief Thomas J. Phelan was in charge of operations. Most of the city's fire force responded to the three alarms. Damage to the interior of the building was reported considerable, but some families were able to return to their smoked out quarters the same night of the fire.

Shown here are Trenton, N. J., firemen helping remove some of the 50 tenants of the Dalton Building to the street during a three-alarm fire, December 2, last. Stairways were impassable.

Pennsylvania to Build Training School

Contracts totaling $572,710 have recently been awarded by the Pennsylvania General State Authority, for the construction of the first State Training School for Pennsylvania's paid and volunteer firemen. It will be located in Lewistown, Mifflin County.

The project, when completed, will consist of two buildings and a control tower. One building will be used as the training school and the other will house all the modern fire fighting equipment. The control tower will regulate the supply of water and fuel used during the training periods.

Public Instructions department officials say that the State Firemen's Training School will be unique in its field. Every phase of fire protection will be included in the training schedule. Featured in the program will be fire fighting, whether in residences, stores, public buildings, or industrial plants. A specially designed building, combining all common types in which fires may occur, will be constructed. This building will actually be set ablaze to provide realistic experience in fire fighting.

Also included in the curriculum will be training for rescuing fire isolated people, giving first aid to victims of burns and smoke, and how to combat mass panic during air raid blackouts.

The State Firemen's Training School will be conducted by the Public Service Institute of the State Department of Public Instruction.

HELEN KELLERMAN

Fire Razes Frame Church

Fire totally destroyed a 120-year-old landmark in the center of Southington, Conn., on Jan. 30, when flames swept through the First Baptist Church, erected in 1833. Firemen from Engines 1, 2 and 3, of Southington, were aided by firefighters from Plantsville and Milldale.

(Photo courtesy Hartford Times)

Scene during height of fire which destroyed 120-year-old First Baptist Church at Southington, Conn., on Jan. 30, causing damage estimated at $150,000.

The fire was discovered shortly before 7 P.M. by William Pryor, a member of the church, when he went to the furnace room. Oil leaking from the furnace to the floor had ignited, and Pryor tried unsuccessfully to extinguish the blaze with a fire extinguisher. He then sounded a fire alarm. At 8:45 P.M., with flames leaping some 25 to 30 feet from the top of the church, the steeple crashed to the roof.

The fire, biggest in Southington since 1942, brought out all available police to handle the large crowd gathered to watch the blaze. The Rev. Gordon S. Deer, pastor, said the church had only about 40 per cent insurance coverage. Fire officials set the loss at $150,000.

Bakelite Blast Kills Five

Five workmen died and 22 others were injured, 16 of them critically, in a pre-Christmas explosion and fire that wrecked a four-story building at the sprawling Bakelite Company plant in River Road, near Bound Brook, N. J. The worst explosion in the plant's 40-year history damaged a dozen other buildings, sent flames, smoke and debris shooting into the air and caused a fire that raged out of control for more than an hour. Property loss was said to be $500,000.

The initial blast occurred at 2:10 P.M. in the Phenolic Resins Department in Building CM, a four-story brick structure reportedly engaged in defense work. The blast was attributed to a "dust explosion." It was explained the plant uses finely divided organic solid materials such as woodflower, a finely ground sawdust, which is one of the fillers employed in the manufacture of phenolic molding materials and which is highly explosive. A theory advanced was that the explosion occurred in a phenolic dust collector of the molding material department. Phenolic molding material is used in fabricating radios, television sets and hand telephone sets, among other articles.

Although detailed information was not released by the company, it was believed that between 25 and 30 men were normally employed in the department.

The roof and south wall of the building were blown out, leaving much of that part of the plant a shambles of debris. Fire gutted the south wing after the explosion, but the blaze was confined to the single building. Most of the casualties were on the two top floors.

Eyewitnesses said that after the blast some workers managed to reach window ledges where they sat waiting for help to arrive, or clung to the ledges from the outside with their hands.

Shortly after the explosion, thirteen first aid and rescue squads from Bound Brook, Middlesex, South Bound Brook, Manville, East Millstone, Arbor, Dunellen, Somerville and North Plainfield began to arrive at the scene to remove the injured to hospitals. First aid was administered immediately in the plant dispensary.

Carrying out its end of a reciprocal civil defense pact, the Calco Chemical Division, American Cyanamid Company, dispatched its fire fighters, civil defense workers and first aid crew to the stricken plant.

Eight pieces of fire apparatus, four from the Middlesex, the River Road Company of Picataway, the Calco unit and Bakelite's own fire brigade, fought the blaze and brought it under control. The big aerial ladder of the New Brunswick Fire Department rolled into the plant shortly after 2:30 P.M., under command of Captain John Moran, to aid in the rescue of two men reported trapped on the top floor of the building, however the fear-stricken men were removed from the structure a few minutes before the New Brunswick aid arrived. Bond Brook fire forces stood by ready to roll if called and local police transported masks from Calco to the scene of the explosion.

The Red Cross rushed a quantity of serum albumin for the treatment of the blast victims from laboratories in New Brunswick to the Somerset Hospital. Emergency services throughout the area were alerted.

Seek to Cut $15 Million Cotton Loss

One of the projects of the National Cotton Council discussed at its 15th annual meeting was a campaign to reduce damage to cotton by fires and tar spots.

Fires cost the industry more than $15 million a year; most of the blazes occur at cotton gins, resulting in damage to buildings and equipment as well as cotton, it is disclosed.

More than 50 per cent of all gin fire losses are caused by rocks and metal fragments which get into the seed cotton during picking or en route. Another 20 per cent of gin fires are traceable to careless smokers, the Council claims. "Firepacked" bales cause fires at both gins and warehouses. Fires smolder undetected deep inside the bale and burst into flame after eating their way to the outside of the bale which, by that time may have been shipped from the gin and stored in a warehouse.

Representatives of the Council said the campaign would be for wider use of red tags on bales suspected of being firepacked so as to facilitate special handling. The Committee also urged that immediate steps be taken to develop improved bale ties which would reduce fires caused by friction in transit. Railroad officials told the Council that friction from metal bands placed around cotton bales or sparks caused by impact in switching freight cars, had caused cotton losses of $170,000 last year.

Five were dead and 22 others injured, sixteen critically, in blast caused by woodflower dust on December 22, which wrecked building shown in picture. Plant and outside firemen controlled fire after hour fight.

Valparaiso Volunteers Killed

Forty-six members of the Valparaiso, Chile, Volunteer Fire Department met death, along with ten civilians, and approximately 500 other persons suffered injuries, when 20 tons of blasting powder exploded in a burning warehouse on January 1, 1953.

It is believed a reveller, celebrating the New Year, tossed a firecracker into a lumber shed, touching off a fire that quickly enveloped a highway department warehouse and which swept out of control through seven buildings.

Scores of persons were watching the volunteer firement fight the blaze when, at 2:20 A.M., the first of a series of violent explosions rocked the entire city. This and succeeding blasts blew apart the warehouse, filled the Avenida Brasil with flying debris, injuring or killing nearly everyone at the scene. The blast toppled ladders and firemen who were fighting the warehouse blaze, burying many under the debris. Other firemen were hurled into the blazing ruins of the building.

Rescue efforts were begun as quickly as additional aid could be summoned. Troops in Valparaiso and Aconcagua provinces were recalled to their stations by an emergency order. Medical aid was rushed from Santiago, the capitol, in a shuttle service of military and civilian planes. Nurses and doctors with medicine and supplies were brought to Valparaiso from a wide area to treat the more than 200 seriously injured.

By January 3 the death toll had reached 56, with many still in critical condition.

While a three-day mourning period was being decreed, authorities ordered the arrest of Alejandro Lacalle, engineer of Valparaiso province, on grounds he ordered the explosives stored in the warehouse.

Mass services were held on the 3rd for the fifty-six victims, at which President Carlos Ibanez, his entire Cabinet, and foreign diplomats and other important persons attended.

Forty-six members of the Valparaiso Volunteer Fire Department were killed following the explosion of 20 tons of blasting powder during a fire started by a New Year's "merrymaker." Picture shows fire fighters at close grips with the blaze.

Five-Alarm Fire Damages Fire Extinguisher Plant

A spectacular blaze ate through much of the five-story brick building of Randolph Laboratories, Inc., 8 E. Kinzie st., Chicago, well known makers of fire extinguishers, on January 10, causing considerable damage.

Fire fighters, summoned on a 5-11 alarm, prevented extension of the blaze to a six-story annex at 10 E. Kinzie. Two firemen were injured in controlling the fire which, notwithstanding the fact that it was televised, drew such large Saturday night crowds as to hamper the operations of fire fighters. State st. traffic was tied up for two hours.

Origin of the blaze was not immediately determined. When firemen arrived, the maintenance man of the Laboratories was found wandering in a daze on the fourth floor of the annex. He was taken to Henrotin Hospital for treatment for smoke inhalation, as were firemen Michael McNutty and George Malik who received injuries when a hose coupling broke.

Damage was estimated by Chief Fire Marshal John Haberkorn at $50,000.

It took a 5-11 alarm assignment of Chicago firemen to control this spectacular fire which damaged part of Randolph Laboratories, Inc., building. Firemen kept fire from six-story annex.

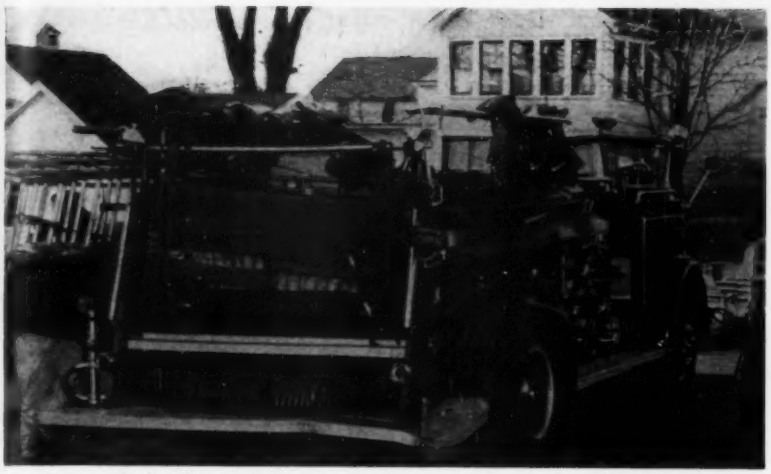
British Soldiers Receive C.D. Training

One hundred and fifty second-year national service soldiers and airmen of all ranks "borrowed" by the British Home Office have put on civil defence uniform and are spending their final year in the forces learning how to rescue people from bombed buildings, operate walkie talkie radio, drive heavy vehicles and render first aid to the injured. Volunteers from many different units the officers and men are now members of the Home Office guinea pig mobile civil defense column whose new depot at Epsom was opened by the Home Secretary (Sir David Maxwell Fyfe) on January 3. Though doing a civilian job, officers and men will still be subject to a military discipline.

Owing to the difficulty in recruiting civilians for whole-time work with the experimental column, the Home Office have had to "borrow" the soldiers and airmen for a period of one year. Whether or not the armed forces continue to supply men for the column depends on whether the Home Office can solve their recruiting problem. The Home Secretary told *Fire Protection Review* (British publication on fire.—Ed.) "finding men for mobile civil defense columns is my chief headache." He hoped the exercises in which the column would take part later in the year would stimulate recruiting.

Before the column begins operations, the men will go to the Home Office C.D. schools for preliminary training, which should be completed by April. Then will follow several weeks of unit training and, in May, the column will begin a series of exercises with local authority C.D. divisions in 21 towns and London civil defense region. First area is the Medway towns at the beginning of May.

Primary functions of the column will be to give civil defense planners information about the size, equipment, organization and tactical handling of mobile columns and their general role in civil



One fire man died and four others were injured on December 28, at Milford, Conn., when a pumper skidded while en route to "cover in" another company at Fire Headquarters.

defense. The column, which is approximately a quarter the size of a wartime one, consists of a small administrative headquarters and communcations section and a reconnaissance section of 120 men. A full column would contain an ambulance section (including women). Equipment includes all types of rescue tackle carried on rescue tenders for each section of eight men, Land Rovers, mobile kitchens and control units.

Commandant of the column is a retired army officer, Brigadier Mackenzie; his deputy, also a civilian, is Mr. C. W. Newman, who led the overseas column which went to Antwerp in 1944.

A big rescue training site similar to the ones at the Home Office schools is being erected at the Epsom depot. Deputy Commandant Newman told *Fire Protection Review* that when completed it will be the most modern in the country.

Before inspecting the depot, the Home Secretary told members of the column that the British system of civil defense training and organization was acknowledged to be the best in the world, but what his experts had to discover was whether it was possible for the column, starting from scratch, to achieve real proficiency in three or four months. The work would not be easy for each man had to learn in one week what a part-time civil defense worker learned in a year.

GEOOFFREY F. D. PRATT

Skidding Fire Truck Results in Fatal Accident

Thomas Mahoney Jr., 49, of 29 Crown Street, Milford, Conn., died in Milford Hospital Jan. 6 of injuries received Dec. 28, when he and four other volunteer firemen were thrown from the rear step of fire apparatus which skidded on a Rogers Avenue curve. Mr. Mahoney received a compound fracture of the skull and internal injuries.

Also injured in the accident were Donald Reardon, a volunteer fireman, who received lacerations of the face and forehead and a possible fracture of the nose; Robert Miller, Richard Smith and Albert Bartley.

The five firemen were riding on the Fort Trumbull Beach Company's pumper en route to "cover in" at the Central fire headquarters while Central's apparatus was at the scene of a minor blaze.

The pumper was traveling north on Rogers Avenue at about 30 miles per hour, fire officials said, as it rounded the sharp curve into Lafayette Street. Mr. Mahoney had been a volunteer member of the Fort Trumbull Beach Company for the past 12 years.

TOM MAGNER

Wet Water Funnels Out Coal Fire

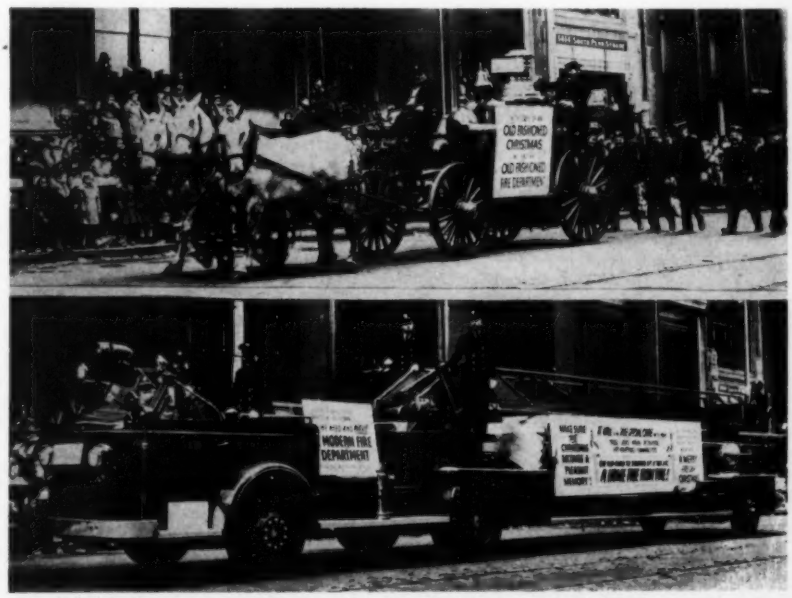
The Fire Department of the Town of White Sulphur Springs, Mont., received an alarm for a fire in a 40-ton coal stockpile in the local jail. Assistant Fire Chief J. W. Lehrkind responded and, upon investigation, found the fire to be deep seated in the pile of stoker coal which was located in a big bin adjacent to the jail boiler house and cells. The bin was below ground level and the Chief found plenty of coal gas in the area.

Control and extinguishment of this fire involved the following stages:

1. Prisoners were ordered removed from the jail, together with the wife of the sheriff, as a precautionary measure.
2. Short wave radiophone message was sent to Helena, Mont., the nearest available source, for one gallon of "wetting agent," which was dispatched via Highway Patrol and received in one hour and twenty minutes. The distance from Helena to the jail is 89 miles.
3. Pending arrival of the wet water, the Chief rigged up two half-inch pipes, plugged both with caps, and drilled holes in the sides to give a small spray effect when water was forced through them, under the coal pile.
4. A wash tub was filled with water and two ounces of the wetting agent added to the contents. A short pipe, to which was fixed a funnel, was then used to inject the wet water into the delivery pipe which, in turn was forced down into the coal pile. The mixture was applied in some 40 to 60 spots, after which water, from another pipe, was forced to wash the mixture (wetting solution) through the coal in about the same number of places in the pile.
5. The boiler sump pump removed the surplus water that flowed to the boiler pit.

Chief Lehrkind reports that it took about 22 hours to "lick the heat" under the coal pile, but the operation saved 39 tons of coal, at $11.90 per ton.

A little better than one-half gallon of wetting agent was used. The chief reports "we do not have a pump on our truck, and could not use high pressure. The town water system averages 100 pounds pressure at the hydrant."



The Philadelphia Fire Department invaded the Thanksgiving Toyland Parade to get over a holiday fire prevention message to more than a million parade viewers (including TV watchers). An ancient steamer, manned by buffs of the Box 1776 Association and Ladder 12's modern aerial carried streamers urging Quaker City folks to give their families the gift of their lives—a home free from fire.

Fig. 1. The Type 0-10 crash fire truck, recently developed for the U. S. Air Force, is designed to operate at temperatures as low as —65 degrees F. A thermostatically-controlled circulation and warning system automatically circulates fire fighting water through a heat exchanger when the water temperature drops to 60 degrees F. and sounds an audible alarm if water temperature falls to 40 degrees F.

Thermostatic Circulation System Prevents Freeze-Up in New Air Force Fire Trucks

An automatically actuated and monitored circulation system, controlled by a pair of thermostats, keeping the water in fire trucks from freezing despite exposure to temperatures as low as —65F. This circulation system, installed in the new Type 0-10 fire trucks (Fig. 1), designed for the U. S. Air Force by American-LaFrance, continuously circulates the fire-fighting water through a heat exchanger when the water temperature falls below a safe level.

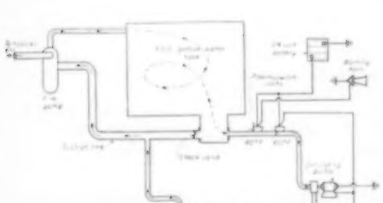


Fig. 2. Schematic layout of the automatic circulating and warning system in the Type 0-10 crash fire truck. One thermostat, set at 60 degrees F., starts the circulating pumps which circulate the water in the truck's storage tank through an ethylene glycol heat exchanger. The second thermostat is wired to the truck's horn, which gives an audible warning when the temperature falls to 40 degrees F.

Included in this circulation system, illustrated in Fig. 2, are two circulation pumps which draw the cold water from the 500-gallon water tank, pump it through a heat exchanger, where it is warmed, and return it through the fire pump piping to the tank. The heat is supplied to the heat exchanger by a circulating liquid, usually ethylene glycol, which is brought to temperature by a thermostatically-controlled 90,000 BTU gasoline heater.

The circulating pumps are controlled by a Fenwal thermoswitch unit. The thermostat, set at 60° F., is installed in an exposed section of the water line to assure earliest possible contact with low ambient temperatures. To warn personnel that some malfunction has permitted the water temperature to fall to a dangerously low level, a second thermoswitch is installed in the circulating line. This thermostat, whose contacts are adjusted to close at 40° F., is wired to the vehicle's horn, to warn operating personnel of a malfunction so that they can make repairs before freezing damage occurs.

These thermostatic controls must meet severe operating conditions inasmuch as these trucks may be used in either arctic or tropical climates. They are expected not to stray from their temperature settings despite repeated shock and vibration caused by driving the truck over rough ground and by operating heavy pumping and power equipment.

Major extinguishing equipment on the Type 0-10 fire truck includes a 200 GPM turret, which can be directed either manually or by hydraulic power; three 35 gpm ground sweep nozzles mounted near the front bumper; two under-truck nozzles fixed beneath the truck; and two 100-ft. handlines for water or carbon dioxide. A full variety of extinguishing agents is available for fighting virtually any type of fire: foam, fog-foam, water fog, and a straight water stream. High pressure CO_2 is available.

This crash-fire truck was developed to obtain maximum usefulness in world-wide, all-climate, full cross-country terrain conditions. It is completely enclosed, insulated and heated so as to be operational at ambient temperatures as low as —65F. Another unusual feature is that the vehicle, whose gross weight is 26,700 lb, is designed to be transported by air in the C-124 Globemaster.

18,792 Fires for Los Angeles Department

Chief Engineer John H. Alderson of the Los Angeles Fire Department reported to Mayor Fletcher Bowron that his department responded to 18,792 actual fires during the calendar year, 1952.

"I think it is noteworthy that no actual conflagration occurred in the city during the year and that only 18 fires occurred in which the loss, even under inflated figures, was more than $10,000," Chief Alderson's report said.

Of the 18,792 fires, 11,352 of them were no loss; 5,295 had losses under $100 and 2,127 were losses from $100 to $10,000.

Chief Alderson mentioned that his department also responded to 1,817 false alarms. Rescue squad calls totalled 2,589 and miscellaneous service calls (gasoline washdowns, citizens trapped in elevators, removing people from cliffs, etc.) totalled 3,039.

Of especial interest to the fire service is Chief Alderson's notation that this department responded to 202 alarms outside of the city. This shows the effective and frequent use of mutual aid plans set up with neighboring fire departments.

"A number of these alarms were of a very serious nature involving threatening fires outside of Los Angeles," the Chief said.

The report said the Los Angeles Fire Department also has an area roughly estimated at 125 square miles of brush and watershed cover, "a constant hazard and a constant threat to the entire city."

Chief Alderson said no structures were lost during 1952 in Los Angeles' mountain area as the result of fire and no serious fire occurred in the area which affected the brush or watershed.

The city's fire prevention bureau was especially active during 1952. It made 34,999 inspections, issued 38,532 notices of violations and made 35,541 corrections of fire hazard violations.

Chief Alderson said the department's Junior Fire Department Program carried on fire prevention instruction in the fifth and sixth grades of all public and parochial schools and affected 53,000 children in 382 different schools.

Chief Alderson also reported as a member of the California State Civil Defense and Disaster Council. He is a member of the Los Angeles five-man Disaster Council.

PAUL C. DITZEL

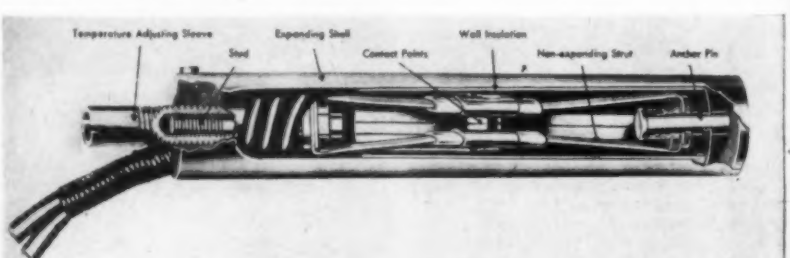
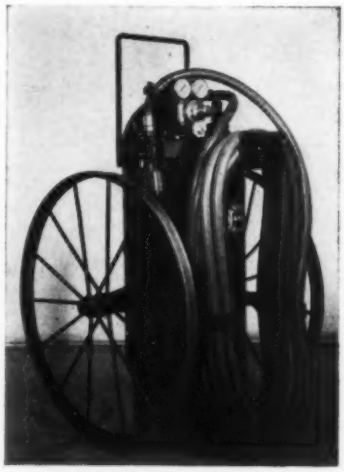


Fig. 3. A cut-away of the thermoswitch unit installed in the Type 0-10 Air Force truck. Expansion or contraction of the outer shell causes the electrical contacts on the strut assembly to make and break. Electrical contacts are completely enclosed within the unit, thus protecting them from possible malfunction because of dirt, spray, or other contamination.

News of the Manufacturers

Alfco Introduces Powerful One-Man Dry Chemical Extinguisher

A new, efficient, one-man fire-fighting, wheeled dry-chemical extinguisher for combating large-scale Class B and C fires has been introduced by the American-La-France-Foamite Corporation of Elmira, N. Y.



New Alfco wheeled dry chemical extinguisher for one-man operation.

The unit has a capacity of 150 lbs. of dry chemical and is a companion to the Model 350, Alfco's two-man engine. The new model weighs 480 lbs, fully charged, is easily maneuverable and can be operated by one man. It carries U. L. label with B. and C. classification.

Discharge range is reported to be 20 to 25 feet, providing a protective cooling effect for the operator, enabling close approach to a hot fire and effective dispersion of the pressurized dry chemical pattern to blast out the blaze.

The expellant is dry nitrogen, with sustained operating pressure of 200 PSI during entire period of discharge. Contents can be discharged in about 45 seconds, if necessary. Spring mechanism nozzle lever controls discharge at option of operator.

Greater Safety in Welding Gasoline Tanks

Greater safety in the welding of gasoline and fuel tanks is reported accomplished through use of a new self-emulsifying, self-scouring solvent, "Gunk," marketed by the Curran Corporation of Lawrence, Mass.

According to A. F. Curran, Director of Research and Development of the corporation, the solvent has an affinity for, and combines with, traces of gasoline or volatile fuel to render them self-emulsifying, so that upon association with water, a safe oil-in-water emulsion is quickly formed that may be removed by sluicing with a water hose.

The process calls for adding as much solvent as there are traces of liquid gasoline remaining in the tank, then slowly filling the tank with water, which displaces the gas fumes, after which the milky aqueous emulsion formed may be drained from the tank. Thereafter the tank may be freely rinsed with a hose. Welding may then be carried out without fear of fire or explosion. After welding, moisture can be removed from the same tank by treating it with low cost alcohol.

Bendix Radio Appoints Two

The appointment of Jack J. Baxter of Hollywood, Fla., and Robert R. Baldrige of Pittsburgh, Pa., as communications engineers to handle the sale of mobile radio equipment for the Bendix Radio Communications Division, Baltimore, Md., has been announced by L. J. Straw, assistant commercial sales manager.

Mr. Baxter has been assigned a territory which includes all of Florida, part of Georgia and a section of Alabama. Prior to his present assignment, he was associated with the two-way radio field for more than 18 years.

Mr. Baldrige, a graduate of the University of Pittsburgh in electrical engineering, will represent the company in western Pennsylvania, part of western New York State, eastern Ohio and in the Wheeling, W. Va., area.

Both men will be active in promoting the sale of the Bendix FM mobile line, recently expanded and designed to be used for fire and police departments, public utilities, special emergency groups, railroads and general industry.

Bendix Radio Communcations is a division of the Bendix Aviation Corporation.

Indian Pumps Protect Indian Ceremonials

Indian fire pumps are used at Woodcraft Camp, Wautoma, Wisconsin, to protect campers and buildings. Located in the heart of a pine forest, the danger of fire is always present.

The photograph shows boys using Indian fire pumps during a ceremonial dance by campers dressed in Indian regalia.

Wilton S. Clements, Director of Woodcraft Camp, says: "We feel that we could not conduct our famous American Indian Lore Program at Woodcraft Camp without the safeguard of Indian Fire Pumps."

Homelite Introduces New Generator

A new dual-voltage 5 kilowatt portable generator, to meet needs of emergency lighting and standby power has been announced by Homelite Corporation, Port Chester, N. Y.

The product, Model 32A115/230-1, will carry a continuous load of 5,000 watts, single-phase, 60 cycle alternating current, at either 115 or 230 volts. It will provide power to start and operate a wide variety of electric tools and equipment used in the fire service, such as drills, saws, grinders, drills, routers, tampers, etc.

A 115-volt standard convenience outlet is supplied, with special waterproof 3-pole receptacle, for connecting either 115 or 230 volt motors, tools and appliances. It is driven by a Homelite Model 32 one cylinder, air cooled 2-cycle gasoline engine, and the entire unit is compact, sturdy, and reported easy to start in coldest, wettest weather. The dimensions are: 29 in. long; 24½ in. wide; 25½ in. high. Total weight 228 lbs.

Flanigin Mid-West Gamewell Manager

W. Ben Flanigin has been named District Manager for the Gamewell Company's Chicago Office. He will be responsible for the Company's activities in the Middle West.

W. Flanigin is a graduate of University of Oklahoma, was commissioned an ensign in the U.S. Navy in 1945, and discharged as lieutenant in 1946. In 1947 Gamewell assigned him to the Chicago office where he served as Sales Engineer until his recent appointment.

Getting Water on the Farm

Every rural fire fighter has known cases where farm homes and other property could have been saved had water only been available for the fire fighters.

Rural fire fighters need water quickly and in amounts that are frequently not available on the farm unless special provision therefor has been made.

One of the best form of insurance a farm can have against this deplorable condition is a water storage system, such as is described and pictures in a new booklet recently issued by Port-

(*Continued on page 240*)

Back-pack pumps protect "Indian" camp

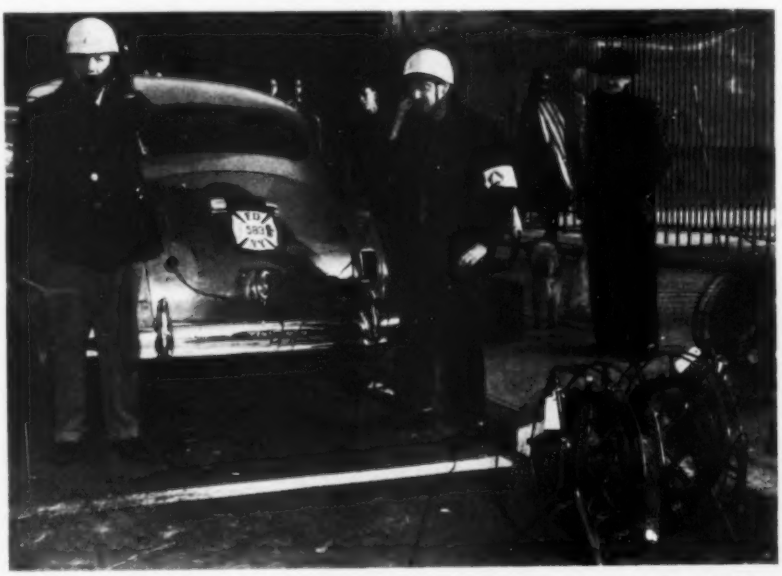
Short Cuts and Gadgets

FIRST TEST OF FIELD PHONES

The first time that mobile switchboard equipment with common battery telephones was ever employed in an extensive civil defense exercise was on December 13, 1952, at the tests conducted in what is known as "Oil City" in Westchester County along Eastchester Creek and in the Bronx, New York City. The Westchester area, which includes numerous tank farms, extensive public utility and industrial plants, lies in both the city of Mount Vernon and Village of Pelham Manor. It extends about 3000 ft. north and south along the Creek, and 1500 feet east and west.

This report is concerned primarily with the Westchester operations which came under the direct observation of a member of the staff of this Journal.

The simulated "incident" was part of the state-directed New York exercises designed to demonstrate how 1200 or more fire pumpers could be mobilized to combat multiple conflagrations resulting from an atomic bomb burst in the Bronx. Token forces comprised, in addition to complements of New York City fire units, a total of 76 pieces of fire equipment, which operated in the Westchester incident, and 5 Westchester pumpers, representing an initial "automatic response" of 45 pumpers normally scheduled to respond to the Bronx. Included in the Westchester operation were 40 pumpers, 3 aerial ladders, 2 rescue, one fire patrol, and one ambulance unit on the Mt. Vernon side. Five of these pumpers were dispatched from New York City (all of them the latest civil defense pumpers, having their first workout); 5 pumpers and one emergency unit came from Rockland County, and one pumper from Fairfield County, Conn. Twenty engine, 2 ladder, 1 rescue and one ambulance and one turret truck operated in the Pelham Manor area. In addition, 5 Westchester and 2 Connecticut companies re-located to cover-in at Westchester fire stations.



Use of extensions from the small switchboards by sub-command posts at the Bronx incident. Note portable reels of wire.

The problem was to link all these units, which were deployed along several far-flung lines, at dockside and on highways and in two lengthy relays, by some means of communications with the two Field Headquarters, one of which, on the Mount Vernon side, comprised the G.H.Q. Communications with the Westchester County Fire Control Center, in White Plains which is the communications center for the 8-county "support area" of Metropolitan New York, were maintained by both land wire and radio. Portable pack-set radios were also successfully used on the fire ground.

From the telephone communications viewpoint, the problem was to provide a small, independent telephone system which would facilitate exercising command. In this problem there was no requirement for central office service.

The problem was met by providing a truck containing a 30-line PBX switchboard, equipped with portable dry cell power packs for each of the two area command posts. For this incident, the telephone company male employes served as switchboard operators. On each side of the Creek, extensions from the PBX were provided for deputy fire commanders, located at points comparatively remote from the command post, using standard telephones connected to the PBX by means of field wire. Other extensions connected the area command post with the GHQ. Two tie-lines, submerged in Eastchester Creek, which has a width of 100 ft. and is of navigable depth, connected the two switchboards. In addition, equipment was provided for two lines of pumper relay, one on each side of the creek, with four telephones on each line. For this application Signal Corps EE8 magneto field telephones were used, connected by means of field wire. All materials, except the magneto field telephones, were standard Bell System equipment. The wire used was neoprene-jacketed drop wire.

New York Fire Department command post during the Bronx incident.

Chronological Sequence of Events

At 8:00 A.M. the morning of Dec. 13, a cool, clear day, communication crews assembled at 4770 White Plains Road, 10 minutes driving time from the location of problem. Telephone crews consisted of 20 men under three foremen,

plus two switchboard operators. Two closed-van trucks housed the two switchboards. In addition, 11 work trucks were used to transport men and materials from the rendezvous point to Oil City.

The Red Alert came at 8:30 A.M.; All Clear at 8:45 A.M. At 8:55 A.M. the fire department advised the company crews by telephone to proceed to the contact point in Oil City, which was So. Columbus and So. Fulton Aves.

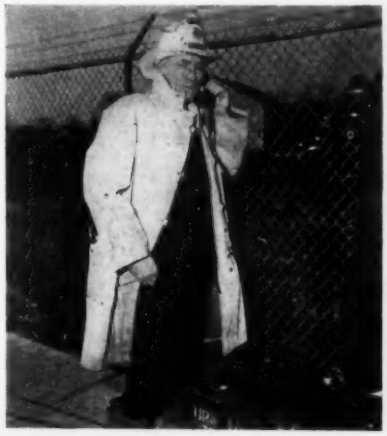
At 9:05 A.M., crews arrived at the contact point, where they were given instructions concerning requirements for the Pelham Manor area. The Switchboard truck moved to its position at the Pelham Command Post, Chief Arthur Fawcett, and from there crews began to lay out wire. At 9:15 A.M. crews were ready to place tie lines across the 100-ft. wide Eastchester Creek. This was accomplished by using the Mount Vernon Fire Department's life-gun, to shoot a line across the creek (at 9:40 A.M.) after which the wire was pulled over.

At 9:35 A.M. Instructions were received covering requirements on the Mount Vernon side and the switchboard truck moved into position at the GHQ post, Chief Edward Gall in charge, and crews started laying out line.

At 9:45 A.M. the installations on the Pelham Manor side were completed. At 10.05 A.M. the two tie-lines were placed in service; at 11:00 A. M. the installation on the Mount Vernon side was completed.

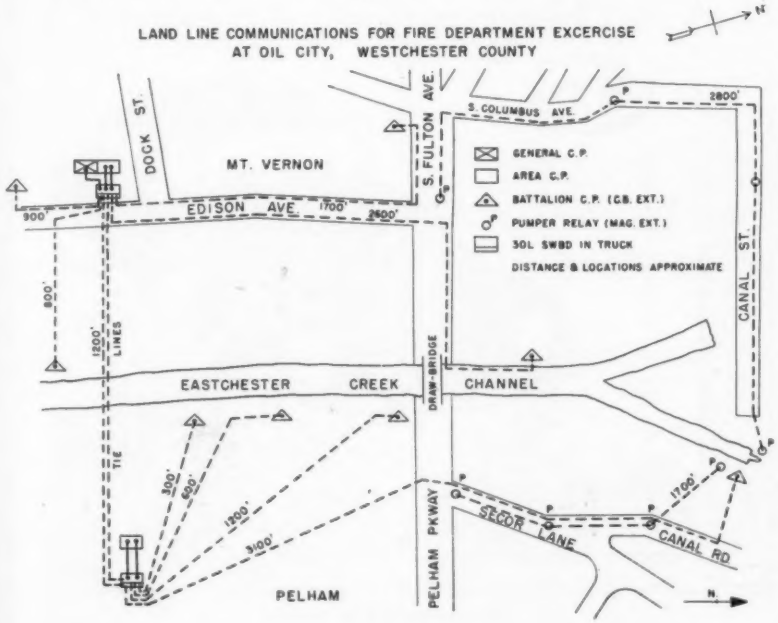
The Pelham Manor area exercises ended at 11.35 A.M., and those in the Mount Vernon area at 12:30 A.M. (additional time was taken to conduct extensive volume water-fog tests along the Creek bulkheads).

The Mount Vernon-side (G.H.Q.) switchboard handled 83 calls during the period of activity, while the Pelham Manor switchboard took care of 62 calls, including those placed over the tie-line.



Chief Edward Gall of Mount Vernon using field telephone at field headquarters during New York-Westchester County C.D. exercises.

Tom Divine, White Plains Fire Department; Roi B. Woolley, Westchester County Fire Coordinator, and B. R. Townsend of the Bureau of Fire, New York State, using field telephone and walkie-talkie at the Field Headquarters on the Mount Vernon side during C.D. exercises.



Some 23,000 feet of wire were laid during the test exercise and most of this was stretched across thoroughfares where it was run over by heavy apparatus and oil trucks, which operated uninterruptedly during the incident. The immersion of the tie-lines likewise reportedly had no ill-effect.

The conclusions reached by officers of the fire service who used the wire communications system as well as observers from a State Bureau of Fire and Civil defense Headquarters, was that it was efficient and rapid and offered great possibilities in providing emergency wire communications facilities during large scale or extended fire control operations.

Note. The Editors are indebted to Mr. Ralph S. Hevly, Chief Communications Section, N. Y. Civil Defense Commission, for the material upon which this report is based. Thanks are also due the N. Y. Bureau of Fire Mobilization and N. Y. Telephone Co. for photographs.

Book Shelf

RURAL FIRE PROTECTION—A Report (Miscellaneous Bulletin 13) by E. W. Foss, has just been released by The New York State College of Agriculture, a unit of the State University of New York, at Cornell University.

The Report, which comprises 24-pages, self-cover, size 8½ x 11 in., is well written and documented. It covers the problems of rural protection, water resources—with illustrations and diagrams and discusses types and use of fire fighting equipment; the operation of fire companies in rural areas; insurance protection, and training in rural fire fighting.

It contains recommendations on fire protection for the farmer, the rural community and rural fire fighter. Information concerning this Report can be secured by writing Mr. E. W. Foss at the above address.

FALSE ALARMS

Precaution

The Fire Captain decided to make good a long-standing promise to take his little girl to the zoo. Standing in front of a lion's cage, the bright little tyke asked suddenly:

"Daddy, if that lion gets out of his cage and eats you up, what bus should I take home?"

Most people can drink beer just as well sitting down as they can standing up. But few people can stand just as well after they have been drinking sitting down as they sit after drinking standing up.

Tom—"Those marks on my nose? They're made by my glasses.'"

Jerry—"You should learn to tilt your head back further so it would pour out easier."

An employer was interviewing a man for a job and asked him how long he had worked in his previous position.

"Sixty-five years," replied the applicant.

"How old are you?" asked the employer.

"I'm 40 years old."

"How could you work for 65 years when you are only 40?"

"Overtime!" was the quick rejoinder.

She Who Laughs Last

A new bride was asked what she found the biggest thrill of marriage. "It was thrilling when George took me to the license bureau. The wedding ceremony was a bigger thrill, but I do believe my biggest thrill was thumbing my nose at the house detective."

A minister was lecturing his Sunday School Class of boys on "Thirsting After Righteousness." After half an hour's work trying to put across the idea to his pupils, the minister said, "Some people thirst after knowledge, some after fame and some after money. Now, can any of you boys tell me what you thirst after?"

One lad piped up, "I thirst after eating salted peanuts."

While walking along a creek bank, a man came across a young fellow lying lazily under a tree with a fishing line in the water. The cork was bobbing frantically, so he said:

"Hey, you've got a bite!"

"Yeah," the fisherman drawled. "Would you mind pulling it out?"

The walker did so, only to have the lazy fisherman ask:

"Would you mind taking it off the hook, rebaiting the hook, and tossing my line back in the creek?"

This was done and the man commented, jokingly: "Being as lazy as you are, you ought to have some kids to do these things for you."

"Not a bad idea," yawned the fisherman. "Got any idea where I could find a pregnant woman?"

"I've got a lot of things I want to talk to you about," the wife announced.

"That's nice," sighed her husband. "Usually you want to talk to me about a lot of things you haven't got."

"With just one stroke of a brush," Miss Binks told her fourth graders, "a great artist can change a smile on a face to a frown."

"That's nothing," piped up Willie. "So can my mother."

Modern Building

A contractor went out to inspect one of his postwar housing projects. Walking up to a house on which a carpenter was doing some inside work, he whispered: "Can you hear me?"

"Sure, I can," answered the carpenter. "Can you see me?"

"Not very well."

"That," said the contractor contentedly, "is what I call a good postwar wall."

Agreement

A man and his wife were in the midst of a heated argument, when she suddenly broke in and said "There's no use discussing things with you. We can't agree on a single thing."

Hubby: "You're wrong. For instance if we walked into a room with two beds in it, a woman in one and a man in the other, in which would you choose to sleep?"

Wife: "With the lady, of course."

Hubby: "There you are, we agree. So would I."

Salesmanship

A super-salesman was going to commit suicide by jumping into the river. A policeman ran up and stopped him, saying: "Here, you can't do that."

"Oh, can't I?" said the super-salesman. And after talking to the policeman for five minutes they both jumped in.

Steno Lou: " It says here that a scientist crossed a lion with a tiger and got a tiglon."

Steno Sue: "That's nothing, my brother crossed the street with a convertible and got a blonde."

Burglar: "Don't be scairt lady, all I want is your money, and—"

Old Maid (interrupting): "Oh, go away! You're just like all the other men."

A Connoisseur

"A fresh guy tried to pick me up on the street yesterday. Boy, what an apartment he's got."

Santa Claus is about the only male who shows any interest in an empty stocking.

Walter: "Do you serve women at this bar?"

Bartender: "Nope, gotta bring your own."

If you would speak for all to hear,
Avoid the flowing cup;
For after too much bottled cheer,
Your tang gets toungled up.

"Do you have dishpan hands?"

Pick out the equipment shown here

...that has served Willimantic 25 years!

Is it the rope? The truck itself? The helmets? No.

It's the Eureka Multex Multiple Woven Hose. Proof? Willimantic, Connecticut, uses a card system giving the complete history of every length of hose in the department. These files reveal that some of the Eureka Fire Hose still in service was bought 'way back in 1927!

If the Eureka Hose made twenty-five years ago can chalk up such a performance, think what today's Eureka Hose, with all of Eureka's latest improvements, can do! Better yet, find out by specifying Eureka on your next order!

FOR GREATER PROTECTION TO LIFE AND PROPERTY

Hundreds of fire chiefs, like Chief Rivard of Willimantic, know the dependability of Eureka Fire Hose—dependability that results from features such as these:

- ★ **The unique Smooth-Interior Filler Ply for maximum nozzle pressure.**
- ★ **Balanced Weave and Controlled Curing, which eliminate excessive writhing and warping.**
- ★ **Formula "X" for positive protection against mildew.**
- ★ **"Bomb-Tested" Linings to insure long, dependable life.**

EUR EKA

EUREKA FIRE HOSE

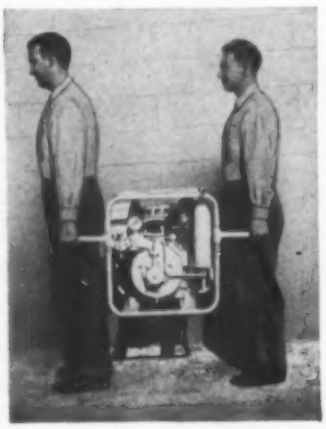
Since 1875, Specialists in Manufacturing Circular-Woven Cotton Rubber-Lined Fire Hose

195 Hudson Street • New York 13, N. Y.

Division of United States Rubber Company

HALE Type FZZ

- Quick-Starting
- Portable
- Compact
- Powerful
- Versatile



Above—Frame-mounted FZZ can be easily carried by two men. It is also available mounted on rubber cushioned steel channels, or on two truck-type wheels.

Fire Companies frequently write us telling of the many practical ways they use their portable Hale type FZZ, such as the following:

- For fighting field or forest fires from moving trucks.
- For "wetting down" and standby use, thus releasing major equipment.
- For pumping out flooded cellars and elevator shafts after fire, flood or other emergency.
- For relaying water to pump or booster tank from sources inaccessible to major Fire Pumpers.
- For factory protection in fighting fires before major equipment arrives.
- For fighting oil or other type fires requiring foam. (Built-in foam proportioner available when specified.)

The FZZ will supply from draft, 60 GPM at 100 lbs. pump pressure; and 100 GPM at 70 lbs. Can supply two capable streams through 1½" lines, using nozzle tips up to ½".

Note: Discharge Adapter can be supplied for use with 2½" fire hose.

Write for new folder today.
Ask for Demonstration

HALE FIRE PUMP COMPANY
CONSHOHOCKEN PA.
Fire Pumps in All Standard Capacities

World Wide Fire News

By Roi B. Woolley

This Could Only Happen in Sovietland?

The Soviet, which claims to have been "first" in everything, seems to have come up with a real "first" this time.

According to press reports, one M. K. Kortnev walked into the grounds of Moscow's fire engine factory and blandly drove off with a shiny new red fire truck (we're glad to have confirmation that Moscow has a fire engine plant, and the apparatus is red).

Citizen, or Comrad, or whathaveyou Kortnev, drove the unit to the suburban town of Basushkin (we allus thought that was a term of endearment a Russky gave to his sweetiepie). Comrad Kortnev parked his prize in his backyard, of all places—and calmly left it there, where it remained for months without any questions being asked, either by neighbors or by the directors of the factory, according to the official organ, Pravda.

Meanwhile Kortnev, who in business life is or was a chauffer in Moscow's October Victory sewing factory, awaited his opportunities and finally heard that the directors of a collective farm named Signal, in the Izhevsk region of the Udmurt Autonomous Republic 600 miles from Moscow, had come to Moscow to buy a truck (the story gets odder and odder every moment).

Through a middleman, Kortnev got in touch with the farmers and sold them his fire truck for 22,640 rubles (nominally $5,660). The buyers drove it home.

It develops that Pravda was very indignant about such carelessness, especially since investigation disclosed that Comrade Kortnev was not the only person who was stealing fire engines from the Moscow factory!

The chief bookkeeper, one Pavel Pavlik, also had swiped one and sold it to a collective farm, the Proletarian Victory, in the Mytischi region near Moscow. Pavlik cleared 12,000 rubles (nominally $3,000) on this transaction. He had planned to steal another fire engine but instead, according to reports, "decided to travel around the country."

P.S. Now we understand better the meaning of the term "collective farm!"

* * *

Hot Off the News Ticker

On January 9 fire broke out aboard the United States freighter "Helen Lykes" at Leghorn, Italy, as her cargo of phosphates was being unloaded. Fumes from the fire forced the crew of the 6,108-ton vessel to abandon ship and call Leghorn fire fighters, who extinguished the flames after a three hour battle. . . . Fire ripped through the U. S. minesweeper "Condor" January 13 at the U. S. Naval Base at Yokosuka, 20 miles south of Tokyo, causing heavy damage. The fire was reported to have started in the ship's galley. It was finally controlled by crewmen and Japanese fire fighters. . . . Early in February, the American freighter "Groton Trails," whose cargo caught fire on the 2nd, was moved to an isolated dock at Genoa, after fire fighters flooded Nos. 1, 2 and 3 holds and sealed them. . . . In Tokyo, the Baccrus Club, haunt of many Allied officers on leave from Korea, was destroyed by fire the night of Dec. 26. Some taxi dancers were injured as they jumped from windows. . . . When a Government dynamite warehouse deposit near Barranquilla, Colombia, let go on January 29, six persons were killed, six injured and eight missing. Buildings in Barranquilla were rocked by blast, which was unaccounted for. . . . Early on February 8, fire of unknown origin destroyed the Craig Air Force Base Officers' Club at Selma, Ala., with estimated loss of $200.000. Blaze started in kitchen area but spread before firemen could control it. They managed to prevent its extension to near-by barracks. . . . In New Castle, Del., near Wilmington, 11 workers were injured January 14, when an explosion and subsequent fire damaged the paint shop of the Bellanca Aircraft Corp. . . . . An explosion tore through a building of the Hercules Powder Co., at Kenvil, N. J., January 12 killing one man, critically injuring another. Blast occurred in a smokeless powder mixing room in one of the many separate structures of the big plant. . . . On January 26, a six-hour blaze swept through a refugee village in Kowloon China, leaving more than 2000 Chinese homeless. . . . On January 22 a fire destroyed 5000 huts and 600 wooden buildings at Rangoon, Burma, leaving 20,000 homeless. At least five died in the fire; several others are missing. Three looters were shot. Standing prominently in the devastated ruins, covering a square mile, is a sign reading: *Caution. Do not throw lighted matches and cigaret ends. They can cause a fire.* . . . Over 7300 claimants are asking $3 million in damages to cover losses suffered in the ammunition explosion at South Amboy, N. J., in May, 1950, it is disclosed. New claimants asked Federal Court for right to intervene in the original action filed in court last year by 600 others seeking $6 million damage. . . . On January 23, the Oak Ridge atomic works, which produces ingredients of bombs that can destroy whole cities, had an accidental explosion. Four workers were slightly injured when one drove a nail into a copper line carrying hydrogen. Somehow the leaking gas ignited and—bam! Lot of noise but only $1500 damage, the ATC said.

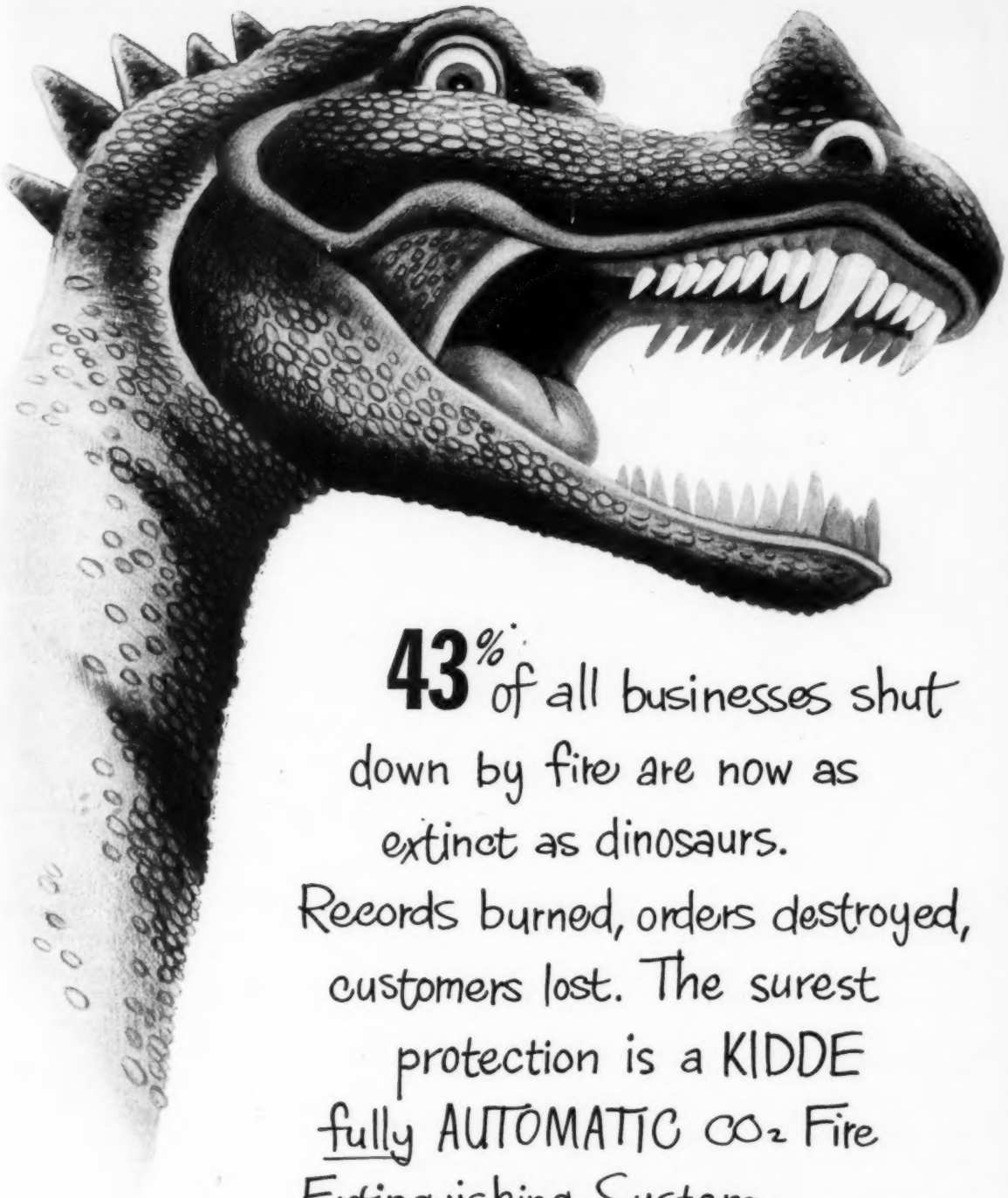
* * *

Powder Plant Blast Kills 12

A tight blackout was clamped by Hercules Powder plant officials at Pinole, Calif., immediately after an explosion February 12 that killed 12 men and injured 6 others. Nevertheless it was reported evidences of sabotage were found, and FBI, Army and other officials are investigating.

The victims included two men who were the sole occupants of a 25 x 50 ft. brick building used for mixing "dope"—liquid ingredients for dynamite. They presumably touched off the plant fire whistle, which brought workers running. Then came the blast which, felt in three counties of the San Francisco Bay area, scattered bodies and bits of bodies over a wide area. Bricks were thrown 700 feet: a segment of the building was hurled 350 feet, landing on a shack and demolishing it.

Fire apparatus and ambulances were summoned, but details of their operation were not released. The plant manager estimated the damage at $50,000. This was the second fatal fire and explosion in Hercules plants within 30 days.



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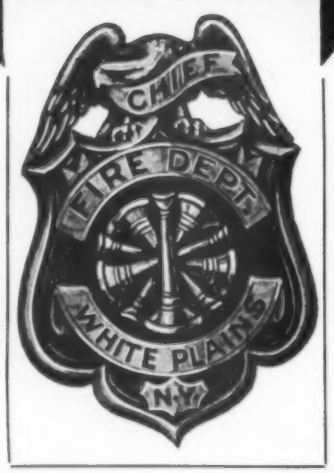

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Vacuum Readings

To the Editor:

In one of the training courses I have taken, it is stated that, on a compound gauge, vacuum calibrations are indicated in inches of vacuum. In checking this statement, I find that on Page 43 of "Fire Department Pumps, Pumping Equipment and Pumping," the following statement is made: "Vacuum calibrations are usually indicated in inches of vacuum." Now if this statement is correct, then it would seem that I have been acquiring my knowledge of fire hydraulics from the wrong authorities.

I have always believed that the calibrations below the zero on a compound gauge indicated *inches of mercury.* C. E. M.

Answer: We believe the confusion in the nomenclature regarding vacuum readings is due to the fact that inches of vacuum have always been understood to mean vacuum in inches of mercury. One inch of vacuum (in terms of mercury) is approximately equal to a negative head of one foot of water. To be exact, one inch of mercury is equal to 1.134 feet of water.

For this reason, a vacuum represented by an inch of mercury has normally been considered as a vacuum of one foot of water. Thus when a vacuum gauge is read and shows a reading, for example, of two, it is normally assumed that the lift is two feet (approximate equivalent of two inches of mercury).

Rather than stating "Vacuum calibrations are usually indicated in inches of vacuum," it would be far better to say that "Vacuum calibrations are usually indicated in inches of mercury."

Ventilation for Carbon Monoxide, etc.

To the Editor:

I would appreciate your answering the following questions:

1. Is there any material or product on the market today that requires 5,000 degrees of heat to manufacture?

2. Are high tension wires on poles, as a rule, on the top of the pole?

3. Where is the cornice of a building usually opened up in the event of a fire; on the top or the front?

4. In the event a chair was going to be lowered out of a 2-story house, what type of knot would be put on that chair to safely lower it to the street?

5. In your book "Promotional Study Course for Firemen," Lesson 14, No. 9 of the "true and false questions, there is a statement I do not quite understand. It reads: "Ventilation for pure carbon monoxide gas must be provided at low levels." The answer is "False."

Pure carbon monoxide is lighter than air therefore it would rise upward. Why the ventilation at low levels?

6. A water tower extended 65 feet is throwing water on a fire. The nozzle pressure is 60 pounds with a 1½-inch nozzle. The reaction against turnover 10 feet above the ground would be 689 pounds. Please explain and solve. J. P. M.

Answer 1. Any material which is processed with the aid of the electric arc would utilize a temperature of 5,000 degrees F. or over. The electric arc (under pressure) creates a temperature of 6,500 degrees F. The electric arc at atmospheric pressure creates a temperature of 6,300 degrees F.

Answer 2. High tension electric wires may be attached either to the top of poles or cross-arms (by use of insulators) or suspended from beneath cross-arms of towers, utilizing suitable insulators.

One approximate method of identifying high voltages on wires is by means of the size and shape of the insulator used.

Bulletin No. 280, entitled "The Fireman and Electrical Equipment," published by The Extension Service of the University of Michigan, Ann Arbor, Mich., has the following to say regarding voltage of wires:

"The fireman should remember that the insulators at the top of the poles appear smaller than they really are when viewed from the ground. For this reason it is well to consider both size and shape when the question of voltage is to be determined.

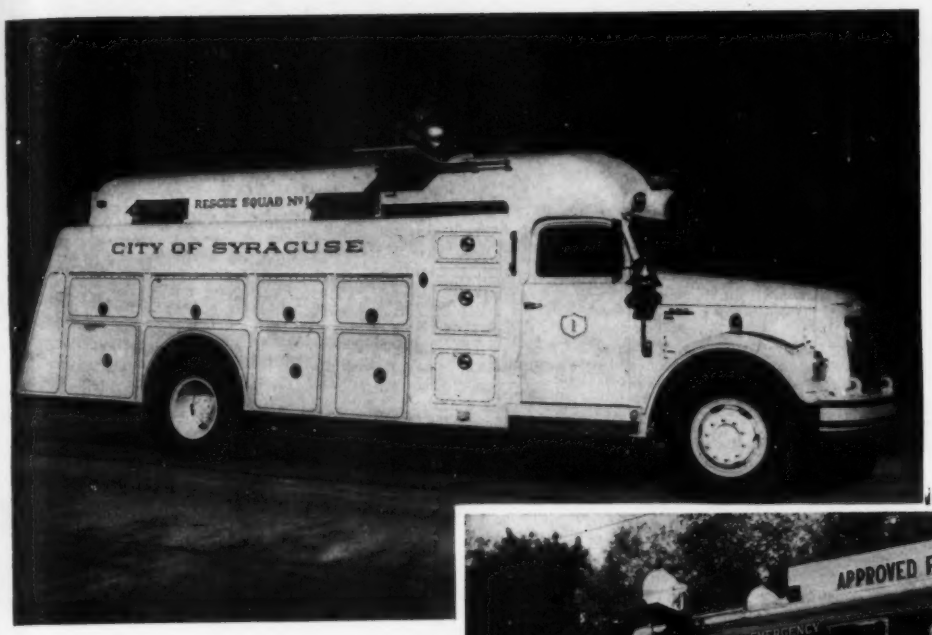
"When wires of different voltages are present on a pole, the high voltage wires are generally above those of lower voltage."

"Since practice differs in various communities, it is strongly recommended that each fire chief consult with a qualified representative of his local power company in order that he may be prepared to recognize the voltage carried by the various wires used."

The bulletin referred to above is an excellent guide for firemen to guard against injury from high voltage electric wires.

Answer 3. Where a cornice is being opened to relieve pent-up heat and smoke, opening should be made at the top.

Answer 4. Many methods may be used in attaching a line to a chair for lowering from a building. If the chair is a heavy one, and it is desired to lower it right side up, a clove hitch can be placed one one of the legs and a half



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hitch around the back; or a bowline around the four legs and a half hitch around the back. The matter of attaching a line is, however, a matter to be determined by local fire department practices.

Answer 5. Apparently you have not interpreted the statemen in this question correctly. The statement says that "ventilation for pure carbon monoxide gas must be provided at low levels." Our answer is "False," which is correct. As the gas is lighter than air, ventilation is provided at a higher point so that gas which has arisen, or is rising in the room, or building, may be relieved from its point of accumulation. If the gas were heavier than air, then low ventilation would be provided, for the gas would flow out in a manner very similar to that of water. Hence, our answer to this question "False" is the proper answer.

Answer 6. Where a water tower is extended to a height of 65 feet above the ground, and the nozzle pressure on the 1½-inch nozzle is 60 pounds, the turning moment would be equal to the reaction at the nozzle times the distance above the ground.

The reaction in pounds is equal to $1.5 \times d \times d \times P$, where "d" is the diamter of the nozzle in inches and "P," the pressure in pounds per square inch.

Reaction $= 1.5 \times 1.5 \times 1.5 \times 60$
$= 203$ pounds approximately.

The turning moment would be 65×203, or 13,200 feet-pounds.

To find the reaction (the force which would be necessary to give the same turning moment) at a point 10 feet above the ground, we merely divide the turning moment indicated above, namely, 13,200 feet-pounds by 10, and we get 1,320 pounds force. This figure, 1,320, is also the force which would have to be applied ten feet above the ground on the standpipe of the water tower to resist the turning effect of the reaction at the nozzle.

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Protecting Soda-Acid Extinguishers Against Freezing

To the Editor:

We have a few soda-acid fire extinguishers in unheated buildings. Heated cabinets are provided for warmth. Can anti-freeze crystals be safely added to the soda-water mixture to reduce the freezing point and not hinder effective operation of the extinguishers?

Is annual recharging necessary?

Are the crystals corrosive?

I understand that crystals are used in plain water extinguishers with good results.

We are thinking of doing away with the heated cabinets if crystals are safe and suitable for our use.

A. E. H.

Answer: The following statement appears in the Crosby-Fiske-Forster "Handbook of Fire Protection," relative to this subject:

"Protection of such extinguishers (soda-acid) against freezing must be provided by means of a suitable heated cabinet and not by mixing any antifreeze ingredients with the extinguisher solution for the purpose of depressing the freezing point, as this will interfere with operation.

For plain water, calcium chloride is commonly employed and is very effective. The freezing point of the liquid can be lowered to any desired point.

But the use of calcium chloride in the soda solution in an extinguisher reduces the reaction when the acid is mixed with the liquid, and reduces the resulting gas pressure to a point where an ineffective stream is delivered.

Annual recharging is desirable. This periodical discharge and recharge serves both as a check upon the condition of the extinguisher and its functioning.

N. Y. Fire Bell Club Dines

About 275 members of the New York Fire Bell Club, and invited guests, attended the Club's 14th Annual Dinner Lincoln's Birthday eve at the Hotel Martinique, New York City. President Homer E. Martin presided. On the dais were Fire Chief Peter Loftus, Deputy Fire Commissioners Horwitz and Pacetta, Fred Link of the Link Radio Co. and Father F. R. Froenhoefer.

An outpouring of top officials of the New York Fire Department and the Fire Patrol enjoyed the dinner and the brief entertainment, high point of which was a skit "Call the Fire Department" written by Al. Blume, Brooklyn Buff and staged by Phil McGovern, Chief Dispatcher and Johnny Allen, Brooklyn Dispatcher.

Matty Lomasney was presented with a gold badge in recognition of his many years of service. Numerous prizes were handed out to lucky ticket holders. A quartet from the 7-7 club of Brooklyn rendered selections.

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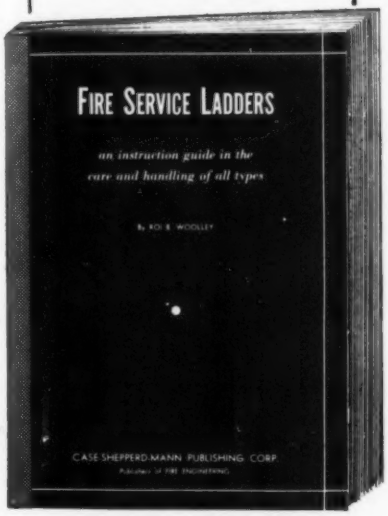

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FIRE SERVICE LADDERS

BY ROI B. WOOLLEY

AN INSTRUCTION GUIDE IN THE HANDLING AND CARE OF ALL TYPES

Here, at last, is an answer to the great many requests we have had from fire chiefs and fire department instructors the country over—a book embracing the highly popular series of articles on ladders that appeared in FIRE ENGINEERING between May, 1950, and October, 1952.

This is without question the most complete, practical and authoritative material ever made available to the fire service on every phase of ladder use, handling and care. It is not only brimful of instructive illustrations but *each operation is fully explained* in easy-to-understand detail. The author, Roi B. Woolley, who is Assistant Editor of FIRE ENGINEERING, a former fire chief and a nationally recognized authority on fire fighting, devoted many months of careful and thorough research in compiling and checking all the data.

Every fire chief, instructor and training school should have this book, and a copy certainly belongs in each fire station.

CONTENTS

Twenty-eight fact-packed Chapters dealing with every fundamental of fire service ladders, their design, use and maintenance. Here are some of the major subjects covered:

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Among the Buffs

By Paul C. Ditzel

THE thrill that probably comes only once in a lifetime to a fire buff occurred recently here in Hollywood when I watched a four-alarm blaze from the comfort of my own den.

The Los Angeles Fire Department had been run ragged during two especially windy days. Fire officials noted an unusually high number of brush fires during the winter season. In one week brush fires totalled 22 as compared to 55 since the start of the year. High winds whipping through the brush-covered areas needed only a spark to set a roaring blaze.

That Sunday afternoon, along about 4:27 p.m., the Westlake alarm office received a report of a brush fire in the Hollywood Hills. The alarm was broadcast over the fire radio and I looked out my back window in my den and saw a sizable loomup of smoke.

Battalion 5 responded to the alarm with Engines 52 and 82 and called for an additional engine company at 4:45 p.m. By this time the brush fire had a good hold and flames were easily visible here in my den, a good mile away. Within the next three hours additional equipment was called for until the equivalent of a four-alarm assignment was filled. Standard assignment for brush fires in Los Angeles is two engines and a chief. Before equipment stopped rolling, however, Truck 27 and a flock of miscellaneous equipment, was sent to the fire.

Los Angeles' famed Mountain Patrol also responded to the blaze. When darkness came, the glow of the flames and even huge sheets of fire were visible from here in my den. In fact, I probably learned more about the fire by staying home because I listened to the blow-by-blow account of the blaze as I watched it from my window.

The several top officers of the department who also responded to the brush fire used walkie-talkie radios. The walkie-talkie reports came in clearly on the converted Army radio, a BC-683, that I have.

Just as the Hollywood Hills fire got going strong, a report was received of a structure fire further west in the Hollywood Hills at Mulholland Drive and Bendict Canyon Road, close to the Mountain Patrol headquarters. Patrol I radioed from the scene: "I have a house fully involved and several spot brush fires going good. Give me a full assignment." Before the Mulholland Drive incident ended, a second alarm assignment was dispatched to that location.

Fire Fan Phil Glickman, ace photographer for the Los Angeles Examiner, got excellent shots of the Mulholland Drive blaze. His photos were printed in the Examiner the next morning.

Both these brush fires excellently showed the invaluable aid of radio and especially of walkie-talkie equipment at fires which cover a widespread area. Through use of radio additional equipment was directed to these two fires and given instructions while they were en route.

The first brush fire threatened an estimated 300 homes, most of them in the high-price range, and by use of

radio a possible high fire-loss was averted when one rig spotted a roof ignited on one of the houses.

Maybe you fans think this Southern California weather is making me lazy. Brother Buffs Jack Corcoran and Charles Farnham in Buffalo, N. Y., certainly will think so. If they think I'm getting lazy in not responding directly to a four-alarmer, give a listen to a new wrinkle in the fire business. This gimmick comes from my excellent pen pal, Geoffrey F. D. Pratt, editor of Fire Protection Magazine, who tells about it in his magazine.

Seems as though we fans can someday look forward not only to having fire and police radios in our dens, but television sets tuned to special fire department frequencies. Over in Glasgow, they're making experiments now in fire brigade use of TV.

Firemaster Martin Chadwick of the Glasgow brigade is experimenting with television equipment especially adapted for use with a special camera mounted on the roof of a control unit. In European brigades, the control unit serves as the radio contact and operations center at large fires.

The control van, according to the Glasgow plan, will "shoot" the fire from a variety of angles and screen the results at the fireground, or more distant, at the alarm office. Guess you fire buffs can look forward to selling the family car so you can stay home and watch those blazes on your fire-television set. What is the fire buffing hobby coming to!

I've still got that story of the fire commissioner who sounded the second alarm from his own office. It's in my back pocket and maybe I'll get around to telling the story next issue. Your correspondent also turned in a fire alarm the other day for a fire in the new plush Hotel Statler. More on that later, too. Meanwhile, keep those fire buffing stories coming. The address remains the same: 1246 Tamarind Ave., Hollywood 38, Calif. You can also find me at work—beginning at 5:30 in the morning—at the Los Angeles Daily News. (The rewrite men come to work the same time as the waste basket emptiers!)

Photography Aids Australian Forest Fire Fighters

Forest fire-fighters of Australia will be aided by photography in combating future forest fires. The Aussies hope to strengthen their drive against bushland blazes by photographing fires from the air, then dropping prints to fire crews on the ground to guide them in mapping fire-control strategy. The Victorian Forestry Commission and the nation's Aircraft Research and Development Unit are undertaking the venture jointly.

Vamps Have Home Alarms

The fire siren will no longer disturb residents of Chicago's suburban Park Forest, according to the wayward press, which says that Fire Chief Frank Maloney reported the installation of a new alarm system which will set bells ringing only in the homes of the village's 32 firemen.

The chief is quoted as believing the system is the first of its kind in service in this country.

DICK STEINMETZ

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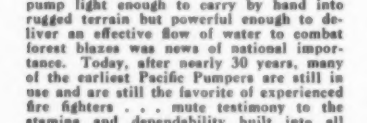

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FIRE EQUIPMENT DIVISION
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The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. MOCLLEY

Near-Cat-aclysmic Cat-astrophe

Delta, Pa., fire department officials report the following happened on December 16th, last, when Mrs. Elmer Miller accidentally stepped on the tail of her pet cat:

The cat screamed. Mrs. Miller likewise, perhaps—at any rate she lost her balance and toppled over. Doing so, she fell against her husband, who was carrying a can of kerosene. The kerosene splattered all over the place. The fumes were ignited by a heater and old Demon Fire was in business!

Flames spread rapidly through the four-room apartment of the Millers, causing damage estimated at $6,000 before the firemen could bring it under control.

The Millers were forced to evacuate. So, too, was the cat. Our inquiring reporter, however fails to say what finally became of tabby.

* * *

A "Profitable" Fire?

This happened out Imperial, Neb., way. Seems there was a fire—somewhere beyond the horizon. By the time the vamps, whose duty it was to to protect the district arrived at the scene, the building was no more.

It was all just another one of those things to the vamps, but it wasn't to the cop who had ridden eight miles with the fire fighters. No indeed! To him, it was all a waste of the taxpayers' money for him to have squandered all that time away from his city post, with the fire gone out, and everything.

So-o-o-o while they lasted, he handed out tickets—you know, those little introductions to the nearest magistrate—to drivers of the large number of cars at the scene. Charge: chasing a fire truck. Penalty: $15 and costs.

Odd thing about it all, quotes our correspondent, only drivers of out-of-county cars got the summonses.

Thanks, J. KEARNS.

* * *

Sound Like a Keystone Comedy?

Everybody in Firth, Neb., was burned up—including the vamps.

Carl Kruger's loaded hayrack got too close to some burning grass and caught fire.

Kruger called the fire department. When the firemen arrived, their pump wouldn't work.

When they finally got some water, they discovered the nozzle was broken. Onlookers reportedly got more water than the hayrack.

Nevertheless, the hot'n-bothered vamps finally got matters straightened out in time to save the rack.

We kinda doubt all this, but that's the way the wayward press had it.

* * *

The Tale of the Missing Fire—Or What Happened?

An amazing story is being told in Newark, N. J., trucking circles. It concerns the driver of an oil truck who closed up and parked his vehicle in the bulk plant yard for the weekend. His truck, along with many others, would not move until Monday morning.

Early Monday morning he returned and was startled to find the cab of his truck completely charred from what obviously had been a serious fire. No other part of the truck was damaged; no one had seen any fire; and the trucks adjacent to his was unharmed.

Investigation finally determined what had happened. The fire originated in the cab of the truck where a Kidde 5-pound carbon dioxide portable extinguisher was mounted. The intense heat caused the pressure to rise in the cylinder until finally the safety disc was ruptured and the fire killing gas rushed out smothering the blaze.

A mechanical detail which expelled the contents of an extinguisher normally through the nozzle should a safety disc rupture, has permitted the inert gas to totally flood the truck's enclosed cab at the correct rate of flow to reduce the amount of oxygen to a point insufficient to support combustion. The fire was smothered in seconds.

Incidentally, the manufacturer of this extinguisher does not recommend dependence on this kind of freak luck when a fire flashes!

* * *

"Just Testing!"

The Brothers of Newark, Ohio, thought they had a good idea, that turned sour. As part of the city's sesquicentennial celebration last fall, they displayed old fire-fighting equipment in front of the central fire station. The exhibit included an old steamer.

The lads thought it would lend realism and be more dramatic if they could fix things so the old boiler would look like it was working. To that end they dropped a government surplus smoke bomb down the stack.

The idea was all right except that the resulting smoke was so bad, that traffic was stopped in a five-block downtown area; citizens had to feel their way through the smog, and the fire fighters found that attempting to put out the smoke bomb with an extinguisher only made matters worse.

Finally, they snagged the offending "Vesuvius" with a broom handle and doused the bomb in a pail of water.

"Is there a fire someplace?" caughed a police sergeant over the telephone. "Nah," was the Brothers' reply, "we're just testing some equipment!"

* * *

Would You Call This a Hot Seat?

This'un we swiped from the Thunderbird Wingspread, peppy little paper of the firemen of the Southwest, Phoenix, Ariz. And it's worth filching, it was originally submitted by Bill Crossley of South Phoenix Volunteer Fire Company who deserves the parsnips. The published item read like this:

About six weeks ago, the alarm sounded and Bill remarked to Chief R. B. Caveny, "This will be a hot one." When Bill answered the phone a lady shouted, "Hurry, my whole back side is on fire."

Upon arrival, her garage and patio were found to be intact, but a badly singed bathroom bore mute evidence to the accuracy of the lady's remark.

She had been given an enema contain-

ing ether, and had taken advantage of the subsequent opportunity to enjoy a quiet cigarette. The ignited butt she heaved a little later was one of a series. Result: There were burns all around the plumbing.

* * *

Hot Off the Tape

Louis Kligman, 83-year-old, who had an artificial leg, died in a flash fire that wrecked an office building in Philadelphia, routed more than 300 persons, did $250,000 damage. When his body was recovered, $1,078 was found in the scorched leg. . . . The headquarters building of the Atlanta, Ga., Fire Department has been condemned as a fire hazard. Fire Chief C. C. Styron listed 19 defects, including the absence of extinguishers and inadequate means of getting out of the place should it catch fire. . . . In Pontiac, Mich., three youths admitted, February 10th to setting fire to a $20,000 vacant house to settle a bet that the flames could be seen 8 miles away. They said they poured gasoline through the house, touched it off with a match and then rushed to a service station 8 miles from the scene—but were still undecided whether they could see the blaze. A fourth youth supplied information leading to the arrest of the others. . . . Voice recorders have been installed in New York City's fire alarm central stations to make a record of persons reporting fires via telephones. . . . Brown's Hotel, a Greenwood Lake, N. Y., landmark, used for years as a training center for prominent boxers, burned January 4th. The 2-story 24-bedroom hotel was closed for the winter. Firemen of West Milford, Ringwood, Stonetown and Erskine Lakes, N. J., and Greenwood Lake, N. Y., fought fire, which did damage of $70,000. . . . The old, old story—in Woodbury, N. J.: two children, a 4-year-old girl and her 7-months-old brother were suffocated in a dwelling fire. The mother had gone shopping, leaving them alone in a first floor bedroom. Overturned oil stove! . . . In Houston, Tex., fire which swept an old tenement two doors from a fire station, January 25, killed five persons, all members of same family. . . . On the same day in Sayreville, N. J., a 32-year-old man, his 24-year-old wife and their daughter, aged 4, died when fire roared through their one-story bungalow. It is believed the husband fell asleep while smoking on a sofa. . . . In Hazelcrest, Ill., E. G. Ireland, secy.-treas. of the local volunteer fire department, worked hard to raise $21,000 for a new pumper, and proudly went to its dedication. While he was away, his house caught fire. . . . In Wilkes-Barre, Pa., the Empire Furniture Co. advertised a $146,000 fire and smoke sale of goods damaged in its warehouse. Before the sale could get going, a second fire swept the building January 20, leaving little to reclaim. . . . A 3-year-old boy died with his 2-year-old brother when, after being saved from the fire, he went back and tried to save his dog from a fire that swept his parents frame cottage near Sylvan Lake, N. Y. . . . A local resident of Memphis, Tenn., never leaves her key under the doormat. She hangs it around her collie's neck when she leaves home. The dog doesn't like firemen. (Thanks Brother McDonnell). . . . In Kenilworth, N. J., residents complained of an air whistle recently installed on fire headquarters to sound fire and civil defense alarms, so borough officials shut

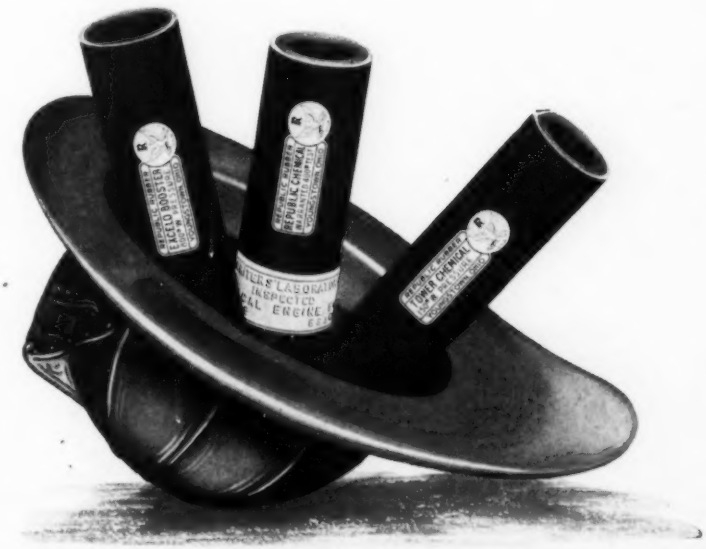
they BELONG together

● **Republic Chemical Engine Hose is a basic part of your fire-fighting equipment.** With it, you're always ready . . . always giving your community the ultimate in protection and preparedness at minimum cost.

Republic Chemical Engine Hose is tough, yet highly flexible. It handles smoothly without kinking and its acid-resistant tubes are long lasting.

Make sure you're equipped with these time-tested fire-fighters . . . **Republic Chemical Engine Hose in the bright red covers!** And don't forget! Republic Rubber makes a complete line of quality hose . . . specialized, job-proven hose for every type of fire fighting.

Write us today for full facts.



EXCELO BOOSTER HOSE

Republic Excelo 800# Booster Hose is a newly designed lightweight hose built for closed-end service on fog producing equipment. Special construction eliminates excessive length changes when hose is subjected to pressures up to 800 lbs. Available in 50-ft. lengths in ¾ and 1-inch diameters.

REPUBLIC CHEMICAL HOSE

Republic Underwriters' Chemical Hose—in either wrapped or braided construction—for working pressures up to 200 lbs.—UL approved for hydrostatic tests. Wrapped construction supplied in 50-ft. lengths. Braided construction in 50-ft. or 100-ft. lengths or in longer production lengths on reels or in bales.

TOWER CHEMICAL HOSE

Tower Chemical Hose—Lightweight, flexible hose made in either wrapped or braided construction for use where working pressures do not exceed 175 lbs. Wrapped construction supplied in 50-ft. lengths. Braided construction in 50-ft. or 100-ft. or in longer production lengths on reels or in bales.

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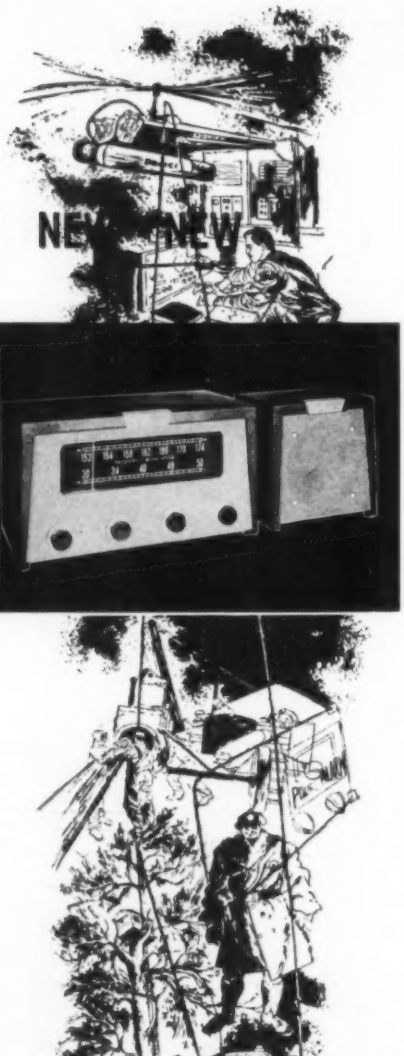
INDUSTRIAL RUBBER PRODUCTS



NEW NEW NEW NEW NEW

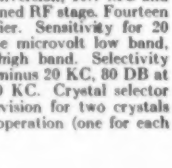
MONITORADIO MODEL DR200

Model DR200 Two Band Communications Receiver newly developed—low cost—only one of its kind. Fixed and Tunable Combination AC Receiver for 30-50 MC and 152-174 MC—a long-waited-for development in less expensive units for monitoring existing 2-way radio communication systems.

Operating in two pertinent fixed frequency ranges, the tunable feature can be used alternately with the flip of a switch. Under routine operating conditions the DR200 performs as any standard crystal controlled monitor receiver. But when conditions require, a flip-of-the-switch makes the unit tunable across the full frequency range.

Such flexibility of performance makes the Monitoradio DR200 ideal for expanding communications systems of municipal police, civil defense, fire, forestry, state police, pipelines, taxis. Use and application of this unique receiver is limited only by the imagination.

Built-in sensitive squelch with level control. Dual conversion, 10.7 MC and 455 KC. Fully tuned RF stage. Fourteen tubes plus rectifier. Sensitivity for 20 DB quieting, one microvolt low band, two microvolts high band. Selectivity 3 DB at plus or minus 20 KC, 80 DB at plus or minus 30 KC. Crystal selector control with provision for two crystals fixed frequency operation (one for each band).



MONITORADIO MODEL MR32 AC RECEIVER FOR 30-50 MC

Built-in squelch for level control. Sensitivity 6 microvolts. 7 tubes plus rectifier. Power transformer. Fully tuned RF stage.

Limited dealer franchises available—write for details.

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MONITORADIO

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it off and substituted an old siren that had been discarded because it couldn't be heard in all sections of the borough. . . . In Dobbs Ferry, N. Y., Fireman Richard Munroe, sitting next to the driver of Ogden Engine Co's pumper, grabbed the steering wheel and applied the brakes, when driver John Cullen collapsed at the wheel. There were a dozen firemen on the rig as it was answering a call from the Public Library. Cullen was given first aid and hospitalized. Fire Chief Terrance Buckley lauded Munroe. The Vol's snuffed the fire, caused by a short circuit. . . . Kenneth Hopkins, 40, of Hollywood, Calif., widely known hat designer, to the movie stars, was burned to death February 5 in an apartment he had rented only a few days before. . . . A schoolboy hockey player, who prays before every game, was credited with saving St. Patrick's Catholic Church, Stoneham, Mass., from possible destruction by fire on January 24. Richard Heeter, 17, discovered the fire as he entered church, called firemen, went on to help his team win 3 to 0.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of February, 1953.

Month Ending February 28, 1953

Huntsville, Ala.—Whse. owned by Paul Monroe destroyed.
Selma, Ala.—Craig Air Force Base Officers' Club destroyed.
Ft. Defiance, Ariz.—Shops of road division on Navajo reservation, destroyed.
El Dorado, Ark.—Oil storage tank owned by Lion Oil Co., three miles west, damaged. Lightning.
Burlingame, Cal.—G. W. Williams Co. bldg. destroyed.
Bell Gardens, Cal.—Two stores destroyed.
Calistoga, Cal.—Several business bldgs. in business district, destroyed.
Claremont, Cal.—Five stores in business district, destroyed. Short circuit.
Fort Bragg, Cal.—Chris Nichols Trucking Garage & two trucks destroyed.
Fresno, Cal.—Fresno Planing Mill Co., Inc., destroyed.
Lancaster, Cal.—Valley Theatre, Mel's Cafe, French Cafe and barber shop destroyed.
Los Angeles, Cal.—Big Bear Market destroyed.
Los Angeles, Cal.—Cabinet shop and adj. dwelling damaged.
Los Angeles, Cal.—Five dwellings in 1800 block East 52nd Street, destroyed.
Los Angeles, Cal.—Moli-Vanhuele Co., potato chip plt., and Parkslip Co., nail mfg. plt., destroyed.
Pinole, Cal.—An operations bldg. of the Hercules Powder Co. located 10 miles north of Richmond on San Pablo Bay, damaged. Explosion.
Placerville, Cal.—Two barns on Carleton Hickman's Camino Ridge Farm destroyed. Sparks.
Porterville, Cal.—B-J Farm Service bldg. destroyed.
San Francisco, Cal.—Clement Sport Center and Lick Super Market damaged.
Whittier, Cal.—Whittier Laundry destroyed.
Willows, Cal.—Elk Creek High School destroyed.
Estes Park, Colo.—Estes Park Garage destroyed. Ignition of gasoline being used to clean motor parts.
Pueblo, Colo.—Department store owned by Mrs. Sol Abbott, destroyed.
Washington, D. C.—Department store whse. of S. Kann Sons, destroyed.
Bartow, Fla.—Citrus packing house destroyed.
Jacksonville, Fla.—Lake Forest Baptist Church destroyed.
Miami, Fla.—Paint and body shop of Ingman Motors, Inc., including automobiles, destroyed.
Atlanta, Ga.—Bldg. occupied by H. Smith Bottle Supply Co., damaged.

Atlanta, Ga.—Whse. leased by Acme Fast Freight, Inc., and Nashville, Chattanooga & St. Louis R. R., destroyed. The whse. was used as a terminal for separating and rerouting genl. merchandise.
Atlanta, Ga.—Bldg. containing five store units in Cobb community of Fair Oaks, damaged.
Fort Oglethorpe, Ga.—Main section of Croft Chenille Co. destroyed. Electric motor.
Moscow, Ida.—Shorty's Pool Hall destroyed. Bocks Sewing Machine Shop, Maxine's clothing store and grill damaged. Faulty furnace.
Belleville, Ill.—Garage occupied by Belleville-St. Louis Motor Coach Co. destroyed.
Chicago, Ill.—Factory bldg. occupied by Ideal Paper Box Co., Berliant Mfg. Co., furniture mfrs.; Manuel Kolb, wool clippings processor & Pekay Machine & Engineering Co., damaged.
Chicago, Ill.—Factory bldg. occupied by Becena Corp., antenna mfr.; Belmont Paper Box Co. & Universal Braid & Cord Co., damaged.
Decatur, Ill.—Consumers Ice & Coal plt. destroyed. Defective wiring.
Monmouth, Ill.—Elks Lodge destroyed.
Staunton, Ill.—Whse. of Associated Groceries, Inc. destroyed.
Independence, Ia.—Bldg. housing office of Don Risk, Frank's clothng store, J. L. Cherney law office damaged.
Muscatine, Ia.—Bldg. housing M. Kautz Baking Co. damaged.
Liberal, Kans.—Five bldgs. at Liberal Airport destroyed.
Louisville, Ky.—Mockingbird Valley home of Dr. Irvin Abell, Jr., destroyed.
Paducah, Ky.—Reidland High School in McCracken County community destroyed.
Paducah, Ky.—Whse. rented by Gray & Son Truck Lines, Magnavox Co., Paducah Sash & Door Co., Myers Paper Co. and Trevathan Furniture Co. destroyed.
Thealka, Ky.—Tipple of North East Coal Co. in Johnson County destroyed.
Houma, La.—Bijou Theatre destroyed.
Baltimore, Md.—Benjamin Franklin School No. 239, damaged. Juvenile vandalism.
Baltimore, Md.—Chesapeake Marine Railway Yard No. 1, Baltimore Lumber Co. storage yard and office, destroyed. Continental Can Co. plt. No. 9, Tindeco Div., J. S. Young Co. licorice factory and Pennsylvania Railroad Car Float Pier, damaged.
Baltimore, Md.—Great Atlantic & Pacific Tea Co. whse. damaged.
Chestertown, Md.—Six bldgs. of Vita Food plt. destroyed.
Lexington Park, Md.—Lexington Park Dry Cleaners destroyed.
Monson, Mass.—Main classroom bldg. of Monson Academy destroyed.
Worcester, Mass.—The 3-story brick Elk's Home, located in business district, damaged.
Birmingham, Mich.—Lawson & Sons Lumber Co. office bldg. and adj. lumber shed destroyed.
Flint, Mich.—Ace Furniture store and Tom's Fish & Chips, a restaurant, destroyed.
Flint, Mich.—Bldgs. on farm occupied by Wilbur Hitchcock damaged.
Fruitport, Mich.—Main bldg. of Aner Berson & Sons pickle plt. destroyed.
Grand Rapids, Mich.—Ideal Foundry Co., Michigan Wheel Co. and Industrial Steel Supply Co. damaged.
Grand Rapids, Mich.—Taxpayers' hall and clubhouse destroyed.
Grand Rapids, Mich.—Central Reformed Church destroyed.
Hart, Mich.—American Legion clubroom destroyed.
Ludington, Mich.—Pleasant Hill hotel on Upper Hamilin Lake, nine miles north, destroyed. Oil burner.
Otsego, Mich.—Gores Sales, hardware & appliance store; Holt & Murdock pharmacy; Forest Goodacre card & Billiard room; Consumers Power Co. office; O. L. Rhodes grocery in bldg. owned by Carleton & Owen Swartz, damaged. Discarded cigarette.
Paw Paw, Mich.—Shopping Center market and Paul Spaydes drug store destroyed; Masonic Temple damaged.
White Cloud, Mich.—White Cloud convalescent home destroyed. Explosion.
Gluek, Minn.—Cargill Grain Terminal destroyed.
Minneapolis, Minn.—St. Olaf's Catholic Church destroyed.
Minneapolis, Minn.—University of Minnesota Aeronautical Engineering Laboratory bldg. destroyed.
St. Paul, Minn.—Western Supply Corp. damaged.
Columbia, Miss.—Main classroom bldg. at Columbia Training School destroyed. Defective wiring.
West Point, Miss.—West Point Hay & Grain Co. and adj. whse. of Crown Chemical & Mfg. Co. destroyed.
Caruthersville, Mo.—Whse. of Chris-Craft Boat Bldg. Co., destroyed.
Butte, Mont.—Whittier grade school destroyed.
Great Falls, Mont.—Sav-Mor Lumber Co. destroyed.
Blair, Neb.—Main bldg. of Lutheran Publishing House destroyed.

Build Good Will For Your Department

Your men save more lives in cases of suffocation, drowning, electric shock, etc. by using the new improved Stephenson Resuscitator.

Stephenson Resuscitators give greater protection to your community, make your job easier and more appreciated.

Trustworthy
Dependable
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Save Lives
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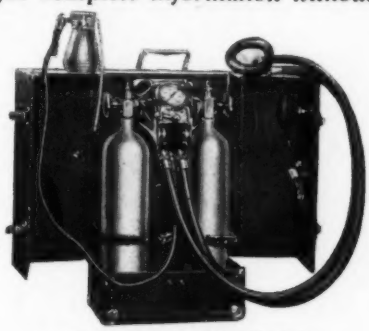
Stephenson Resuscitators

Send today for complete information without obligation.



Standard Portable Model
Other Models to Fill Every Need

STEPHENSON CORPORATION
RED BANK NEW JERSEY

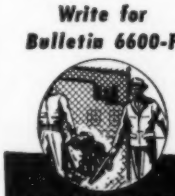
Represented in Canada by SAFETY SUPPLY COMPANY, Toronto

Write for Bulletin 6600-F

MORE **EFFECTIVE** FIRE PROTECTION

CITY • RURAL • FOREST

MODEL 6600 PUMPER—Instantly Self-Priming—No waiting when seconds count
HIGH PRESSURE—Use one or two hard-hitting streams or fire-blanketing fog-spray
LIGHT WEIGHT—Easily carried to source of water or fire area
NEOPRENE IMPELLERS—Pump dirty water as well as clean water—assure long life
POWER—Efficient 4-cycle, air-cooled 5 HP engine known and serviced world-wide
BY-PASS VALVE, SPRING LOADED GREASE CUP, NO LOSS OF PRIME, PLUS MANY OTHER FEATURES



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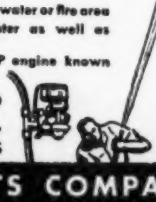


UP TO 40 GPM AT 150 PSI

MARINE PRODUCTS COMPANY
515 LYCASTE AVENUE • DETROIT 14, MICHIGAN

Reno, Nev.—Engine house at Imperial Lead Mine, 15 miles south, destroyed.
Bound Brook, N. J.—Archie's Men's Store destroyed. Faulty wiring.
Bradley Beach, N. J.—Bldg. at 804 Main street damaged. Oil burner explosion.
Long Branch, N. J.—Red Oaks, a resort hotel in Elberon section, destroyed.
Paterson, N. J.—The three-story block long bldg. of the Wire Corp. of America destroyed. Four 2½-story frame houses and two stores, located across the street, a parked truck and passenger car also destroyed.
Ridgefield Park, N. J.—Park Lumber & Supply Co. yd. destroyed. Embers blown from a fire in garage dump.
Wildwood, N. J.—Twenty buses and garage of Five Mile Beach Electric Railway Co. destroyed. Explosion.
Albany, N. Y.—School No. 2 destroyed.
Amityville, L. I., N. Y.—An airport hangar at Zahn's Airport and five small planes destroyed.
Bay Shore, L. I., N. Y.—Bay Shore Theatre damaged. Cigarette.
Brooklyn, N. Y.—Bldg. occupied by B. & C. Trading Co., dealers in used clothing; Acme Automatic, Inc., laundry; M. & S. Wine-Liqueurs; B. Insel, dealer in leather belting supplies, and Alco Distributing Co., wholesale dealers in toys and stationery, damaged.
Buffalo, N. Y.—Bldg. housing Lou Schneider Auto Seat Cover Co. damaged.
Delhi, N. Y.—The 65-room country mansion of Robert L. Gerry, New York City financier, destroyed.
Fulton, N. Y.—Reynolds Restaurant, Cayuga grocery, Denniston's restaurant and Circle Supply Co. destroyed.
Geneseo, N. Y.—Barn on David Carpenter farm, five miles north, destroyed.
Gouverneur, N. Y.—Machinery exchange storage bldg. destroyed.
Henrietta, N. Y.—Farm produce whse. destroyed.
Liberty, N. Y.—Boris Kuckerman's Saveway Super Market destroyed.
Nyack, N. Y.—Waterfront hdqts. of Construction Aggregates Corp., contractors for the western foundation of Thruway Bridge over the Tappan Zee, destroyed.
Saranac Lake, N. Y.—Bldg. housing Ryan Fruit Co. and auto agency destroyed.
Syracuse, N. Y.—Melon Bronze Foundry, Inc., destroyed. Overheated gas heater.
Wappinger, N. Y.—Barn on Samuel C. Stephens' farm destroyed.

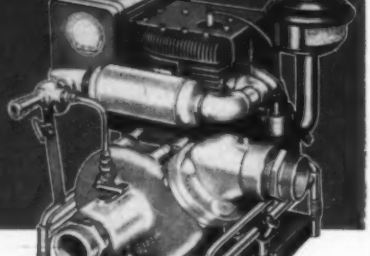
EASILY CARRIED BY TWO MEN

When fire strikes, the fire location or water supply may be inaccessible to the truck pumper. QUICK ACTION of the GORMAN-RUPP DUAL FIRE FIGHTER will aid you in reducing fire losses.

The DUAL FIRE FIGHTER weighs only 162 pounds. Easily carried by two men, it has often brought fires quickly under control when the truck pumper was unavailable.

Used as a booster pump, or to fight fires direct, this light, portable pump starts throwing water in less than a minute. The unit requires little room on the pumper, but plays a big part in effective fire protection.

Proved a valuable and necessary piece of equipment, for any fire department, the small but mighty GORMAN-RUPP DUAL FIRE FIGHTER gets water to the fire . . . FAST!



DUAL FIRE FIGHTER
PUMP MODEL 6201-FF

- **AS A BOOSTER.** Extends the range of your pumping truck. Will deliver 175 g.p.m. through 300 ft. of 2½ in. hose to the top of a hill 50 ft. high.

- **DIRECT PUMPING.** Highly mobile, the DUAL FIRE FIGHTER goes into action wherever needed — drawing water from lakes, streams, ponds. Will throw 100 g.p.m. at 80 lbs. or 80 g.p.m. at 88 lbs. pressure — capacity sufficient to supply two 1½ in. lines.

Ask for Bulletin No. 9-FD-11

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

Hendersonville, N. C.—Belk Department Store destroyed.
Rockingham, N. C.—Spivey Heating & Roofing Co. bldg. destroyed.
Stafford, N. C.—Bldg. housing local post office, grocery store, hardware store and drug store, destroyed.
Wilmington, N. C.—Whse. owned by Goodyear Plumbing Co. damaged. Faulty wiring.
Beach, N. D.—Elison apt. bldg destroyed.
East Palestine, Ohio—Bldg. housing Burnrite Coal Co., M. & J. Coal Co., Tingle Coal Co. and garage-service station setup of Midway Motor Co. and Miller Tire & Oil Co. destroyed.
Neptune, Ohio—Bldgs. at Roebuck Elevator destroyed.
Ottawa, Ohio—Frey Dept. Store destroyed. Defective wiring.
Yellow Springs, Ohio—Women's dormitory at Antioch College destroyed.
Youngstown, Ohio—Marstrom Lumber & Supply Co. plt. destroyed.
Oklahoma City, Okla.—Warr-Caston Lumber Co. plt., including a planing mill, destroyed. Grass fire.
Tulsa, Okla.—Chandler shoe store and Lerner's women's shop, in downtown section, destroyed.
John Day, Ore.—Prairie Mills sawmill destroyed. Short circuit.
Medford, Ore.—Red Barn Tavern destroyed.
Portland, Ore.—Shekter Wholesale Dairy Products destroyed.
Easton, Pa.—Bldg. owned by Grube & Betts Sporting Goods Co. damaged.
Franklin, Pa.—Franklin Baking Co. plt. destroyed.
Langeloth, Pa.—Ace Cleaning and Reconditioning Co. destroyed.
Lebanon, Pa.—Bldg. occupied by Keystone Appliance Co. destroyed.
Mildred, Pa.—Mildred Community Theatre bldg. and three adj. structures destroyed.
Philadelphia, Pa.—Bldg. occupied by Kilgman Mfg. Co., Jean Sportswear Co. and Jerry Lane Frocks Co. damaged. Spark from overheated motor.
Phoenixville, Pa.—Phoenix Bridge Co. fabricating shop damaged.
St. Marys, Pa.—Sylvania Electric Products, Inc., plt. destroyed. Overheated duct.
West Pittston, Pa.—Plt. of C. & S. Mfg. Co., a dress company, damaged.
Williamsport, Pa.—Whse. operated by Clark & Hoag Tire Sales, Inc., and three adj. homes, destroyed.
Lockhart, S. C.—Lockhart High School destroyed.
Peak, S. C.—Office bldg. of Mayor C. A. Pinner; drug store of Pharmacist Joe Smith; general merchandise store of H. L. Suber, U. S. Post Office and general merchandise store of J. F. Chapman, destroyed. Oil heater.
Spencer, S. D.—Implement business operated by Wes Bloomenberg, and Golden Pheasant Cafe, destroyed. Faulty furnace.
Chattanooga, Tenn.—Summer home of Paul E. Carter, Tennessee River north of Riverview, destroyed. Short in electric wiring.
Dyersburg, Tenn.—Forcum-James Lumber & Construction plt. destroyed.
Gladewater, Tex.—Elementary school destroyed.
Houston, Tex.—Office and whse. bldg. occupied by Moore Paper Co. and Mine Safety Appliances Co. destroyed.
Houston, Tex.—Dwelling of Richard I. Anderson, four miles west, destroyed. Water heater.
Wichita Falls, Tex.—Air conditioning div. of United Electric Mfg. Co. destroyed.
Emporia, Va.—Refrigeration Engineering Corp. plt. destroyed.
Grundy, Va.—Supply house of Red Jacke Coal Co.'s Keen Mountain Mine, 12 miles northeast, destroyed. Defective wiring.
Narrows, Va.—Intermont, Inc., laundry and dry cleaning plt. destroyed.
Stony Creek, Va.—Jonas Tyus genl. store destroyed. Short circuit.
Richland, Wash.—Whse. of Bauer Construction Co. destroyed.
Tacoma, Wash.—Tacoma Yacht Club and boats destroyed. Defective wiring.
Welch, W. Va.—Five dwellings and vacant store bldg. in Hamphill section, owned by Semet-Solvay Div. of Allied Chemical & Dye Corp. destroyed.
Milwaukee, Wis.—S. & M. Mfg. Co. metal fabricating firm damaged. Short circuit.
Athabasca, Alta.—Canadian Coachways Bus depot destroyed.
Port-Aux-Basques, Nfld.—Wholesale premises of W. Pike & Sons destroyed.
Alban, Ont.—Church of Our Lady of Lourdes destroyed.
Belleville, Ont.—Belleville bargain center and apts. over store, damaged.
Collingwood, Ont.—Ten stores including Foley's Furniture Store, in main business center, destroyed.
Sault Ste. Marie, Ont.—Apt. bldg. on Queen street, housing Knights of Columbus and several families, destroyed.
Chicoutimi, Que.—Chateau Saint Louis Hotel at nearby Chambord destroyed.
Montreal, Que.—Village Barn Night Club, Loisel grocery & bowling alleys, destroyed.

Arson Investigation

(*Continued from page 202*)

The carbonization in the center is usually wave-shaped; however, where a great deal of any type fluid has been applied, the entire floor surface burns evenly. In such cases, fluids seeping through crevices and cracks in the floor, carbonize the edge of the boards. Where these conditions are found, a piece of the flooring should be removed and quite frequently a residue of the flammable liquid will be found below the foundation of the building. Another point to remember is that liquid will run to the lowest level and flow into crevices and low spots and, in many cases, enough of the liquid can be obtained for a chemical analysis.

If alcohol has been used as a stimulant, it usually leaves its mark on any finished surface by dissolving the polish and leaving a white spot. Where turpentine is used to stimulate a fire, colors on painted surfaces, etc., are dissolved and run together and, as stated before, all flammable liquids leave wavelike lines that can easily be recognized.

The investigator can, by using his sense of smell, detect odors of kerosene. He should, however, before attempting to detect various odors leave the building and inhale quantities of fresh air. This will aid his sense of smell on his return to the scene of the fire. Where large quantities of flammable liquids are used, the fireman first to arrive at the fire can frequently be of help. Where a hose stream strikes flammable liquids, they are usually scattered and burn upon the surface of the water and, in many cases, it will appear to the fireman directing the hose stream that the stream is actually burning.

Many other oxidizing agents and chemicals have been used by the arsonists to stimulate the fire. Among these are sodium and potassium nitrates, calcium carbide, nitrocellulose film, natural or illuminating gases and celluloid. There are many other chemicals with which the arsonists are familiar. The fireman should, therefore, be on the lookout for peculiarly colored ash or ash in the form of clinkers. Where such ashes are found, they should be carefully removed and taken to the chemist for analysis.

The investigator should, in all cases, make a minute search of the debris, examining all uncommon objects that he may find in this search. He should be especially on the lookout for containers that may have held flammable liquids, oils or other highly combustible chemicals. Such containers may have been entirely changed in shape or character by the fire, so he must examine all odd-looking objects and determine exactly what they were used for.

January Fire Losses

Estimated fire losses in the United States during January amounted to $76,659,000, it was reported by the National Board of Fire Underwriters.

According to Lewis A. Vincent, NBFU's general manager, this $76,659,000 loss represents an increase of 3.4 per cent over losses of $74,155,000 reported for January, 1952, and an increase of 3.4 per cent over losses of $74,127,000 for last December (1952).

These estimated insured losses include an allowance for uninsured and unreported losses.

Now all Philadelphia firemen get 2-way radio coverage from either the main station or the new auxiliary station.

Does your city need this protection?

New auxiliary station operates four 250-watt transmitters, two channels for police, two for fire.

Two easy-to-operate consoles route calls to fire and police apparatus all over Philadelphia.

New Philadelphia 2-way radio center controls police, fire, civil defense. Provides radio coverage for any emergency.

New station remote from downtown area

Philadelphia is a *safer* city now, thanks to a new RCA 2-way radio center recently established in West Philadelphia, four miles from the heart of the city. Acting as an auxiliary to the main control center at City Hall, this new installation will provide *emergency* 2-way communications with mobile police and fire units. It will also serve as control center for civil defense.

Two-station coverage gives double protection

Both the main station and this new auxiliary station operate on the same frequency. If one fails, the other takes over. So Philadelphia is assured of *extra* safety in emergencies. It's all typical of RCA 2-way radio at work . . . making things safer and more efficient wherever it's used.

Is your city protected by 2-way radio?

Radio coverage of police, fire, and emergency vehicles is almost mandatory in these troubled times. And even in day-to-day operations, it can quickly save your taxpayers far more than it costs.

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The ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

OUT OF TOWN AID

THE discussion in this Round Table is a continuation of that which appeared in the November, December, January and February issues on providing fire protection to surrounding communities.

The generous response from our readers made it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject or on next month's subject which is described in the box on a subsequent page. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

Joseph F. Ayers, Chief, Rolla, Mo.: We do not make any charge for furnishing fire protection to surrounding areas, but most of them make a donation. We benefit in that these communities trade with our merchants.

Most of the times we must rely on water carried on the trucks, but today most farmers have ponds from which we can refill the trucks.

We have three paid men and ten volunteers. The volunteers receive pay for fires to which they are called.

M. H. Buckey is our fire marshal and captain and is one of the paid firemen. He is called for each fire when in the city.

Rolla has three pumpers, including one specially built for areas outside of the hydrant district and one with an aerial ladder. With the three paid men who each work an eight-hour shift, the volunteers can respond directly to the fire. The paid men take the apparatus.

Our police department also works with us taking care of traffic and our utility department is always present to take care of live wires. Of course, this holds true only at fires within the city.

We believe we have one of the best departments of any city our size and that we have as much equipment as many cities much larger.

Richard R. Heller, Chief, East Aurora, N. Y.: We provide fire protection to communities within the fire district. For this we receive $8,500.00. If we respond to communities outside of the fire district, we sometimes receive some remuneration.

We send two trucks and radio car on all out of village fires both in and out of the fire district.

We are a volunteer department.

C. Rush, Chief, Asheboro, N. C.: We provide limited service. We do not guarantee any service if apparatus is answering outside calls and then a call comes in for a fire within the city. Apparatus is called by radio.

We sometimes receive a donation for rendering out-of-town help, but feel it is just a good neighbor policy.

In answering rural calls we must rely on water carried on apparatus.

We have five paid and thirty-two volunteer firemen.

Herbert Wright, Chief, Newport, N. H.: We make a charge of $1.00 an hour for each man and $5.00 an hour for the pumper in answering out-of-town runs.

Some towns have water holes, but in most cases we provide our own water supply.

We are a volunteer department.

H. H. DuPriest, Jr., Chief, Lake City, Fla.: We do not make a charge for providing fire protection to surrounding areas.

We must depend on water carried on truck.

We have five paid men and thirteen volunteers in our department.

Our system will work out satisfactorily as long as the city sees fit to bear the expense.

R. W. Truex, Chief, Lakewood, N. J.: We furnish fire protection within a five mile area, if requested. We make no charge for this service and depend

HERE IS THE TOPIC

1. **Does your fire department provide fire protection to surrounding farm areas?**
2. **If so, do you make a charge for this service? What are your rates?**
3. **If no charge is made, do the farm districts compensate the fire departments in any other way?**
4. **If no charge is made, and the fire department is not otherwise compensated, in what way does your city benefit from this free service?**
5. **Where rural service is provided, do the farms provide a ready supply of water; or do you depend upon water carried on the apparatus?**
6. **Is your fire department paid or volunteer?**
7. **Has your system worked out satisfactorily?**

only on voluntary contributions. We do not benefit in any way from this service.

We must depend on water we carry.

We have seventy-nine volunteers and one paid man for silent call, etc.

Our system has been a satisfactory one.

Albert Frank, Chief, Sayre, Pa.: We make a charge of $75.00 for the first hour and $40.00 an hour after the first hour for furnishing fire protection to surrounding communities.

We sometimes have to rely on our booster tanks, although we have the river and a ready supply of water usually on hand.

We are a volunteer department.

J. P. Tracy, Chief, Great Barrington, Mass.: We provide fire protection for any neighboring town in need of help. They, in turn, will come to our assistance if we need help. We make no charge.

Some farms are constructing ponds and water holes.

We work in cooperation with the fire departments in Civil Defense Region 1 covering Berkshire County and have a very good mutual aid program.

D. K. Russell, Chief, Cedartown, Ga.: The following ordinance governs our response to out-of-town areas:

"Be it ordained by the City Commission of the City of Cedartown, Georgia, and it hereby ordained by authority of the same, as follows:

"Section 1. No call from outside the corporate limits of the City of Cedartown, Georgia, shall be answered by the Fire Department of said City, unless and until the owner of the property to which such call is made shall, at least 24 hours in advance of such call, comply with the following conditions and requirements, to-wit:

"Section 2. Such owner shall apply for registration with the Chief of said Fire Department, and if accepted for registration shall register his, her or its property, giving a description of the same, and pay an annual registration fee of $2.00 for each residence, plant or industry registered. Each plant or building shall require a separate registration, except outhouses within the curtilage of a residence, which shall be included with such residence. Said Chief shall keep such records of registrations as he shall deem best.

"Section 3. In addition to such registration and the payment of said fee or fees, such owner shall deposit with said Chief a bond with good, sufficient and solvent surety, conditioned, among other things, to pay to the City of Cedartown $100.00 for each residence, plant or industry so registered, when said Fire Department answers any call to such residence, plant or industry endangered by fire, although the property registered is not actually aflame. Said bond shall be on a form prescribed by said Chief and approved by said City Commission. Such registrant shall be bound under said bond when said Fire Department actually responded to a call because of fire in, on or near registrant's property, whether such call is made by registrant, his family, his agent, or other person acting on his behalf.

"Section 4. The bond provided for in Section 3 of this ordinance shall be approved by said Chief, and if at any time, in the opinion of said Chief, the surety thereon becomes insolvent or insufficient such bond must be strengthened by other or additional surety to the satisfaction of said Chief, upon notice of said Chief to the registrant, such notice to be given in writing at least 24 hours after said Chief determines that said surety is no longer solvent or sufficient. The bonds herein provided for shall extend for a term of one (1) year, but no notice to any registrant shall be given of the expiration of a bond or of registrant's obligation to renew or extend same, the duty to be upon the registrant to renew or extend his bond and re-register his property under this

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. . . MEANS ANOTHER CALL FOR

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ordinance, without any notice of any kind from said Chief or said City.

"Section 5. The charge to be made by said City and paid by such registrant for responding to calls made as provided in this ordinance, may be fixed at less than $100.00 in the judgment of the City Commission. Failure to pay any charge for responding to any call, as provided for in this ordinance, shall give said City the right to cancel said registration and bond given, without notice of any kind to the registrant.

"Section 6. The registrant or other person reporting a fire or threatened fire to property of a registrant shall give the exact location of the property aflame or endangered by fire.

"Section 7. Nothing contained in this ordinance or in any bond made in compliance with this ordinance shall be construed as a contract binding in any way on said City to respond to any call to any property of any registrant, when in the opinion of the said Chief or other person in charge of said Fire Department when said Chief is absent therefrom, it is impracticable to respond to such call at the time and place under the circumstances then existing, or if said Fire Department's equipment is needed or is being used elsewhere inside or outside said corporate limits, or in any other emergency. Nothing contained in this ordinance or in any bond made in compliance herewith shall be construed to impose any liability on said City for failure to extinguish a fire or prevent the spread of fire to any registrant's property, neither shall said City be liable for any damage to life, limb or property by reason of said Fire Department responding to any call, or for failure to respond to any call.

"Section 8. This ordinance shall become a part of each bond required hereunder, to the same extent as if fully quoted herein or attached thereto, and shall be binding on each registrant.

Section 9. No property shall be registered under this ordinance which is more than three miles from said City's fire station.

"Section 10. This ordinance shall become effective 60 days from the date of its passage, and shall continue in force until repealed by said City Commission.

"Adopted and approved by said City Commission on the 1st day of March, 1949.

"Approved:
"M. M. Cornelius
"Chairman, Cedartown City Commission

"Attest:
"H. B. Lovvorn
"Secretary, Cedartown City Commission"

We must depend upon water carried on the fire truck for extinguishing fire out of town.

We are a paid department.

John W. Wimer, Chief, Stuttgart, Ark.: We charge $10.00 for each truck and $4.00 for each volunteer who responds to a fire outside city limits. The regular men receive no extra pay. Sometimes a donation is made above charge.

This is a rice farming area and many farmers live within our corporate limits and we believe this is good public relations.

We depend both on water carried on the truck and the supply on farms. Rice canals often afford supply of water.

We are a part-paid department.

We feel our system has worked out satisfactorily as we have saved lots of property through our efforts.

I. O. Reiten, Chief, Rice Lake, Wis.: We have four townships that own an interest in the rural truck so they only pay for manpower which is $2.00 per hour per man. But the townships that do not have a contract with us pay $100.00 for the first hour and $50.00 per hour thereafter plus labor. The Wisconsin law reads that the townships must pay the fire departments that respond.

We depend upon water carried on apparatus and also on that hauled in containers by the farmers.

We have five paid and forty-three volunteer firemen.

We believe our system is a satisfactory one.

J. Douglas Trefry, Chief, Yarmouth, N. S.: We have a mutual aid system. If a community has a fire department no charge is made. If not, we charge $50.00.

We depend mostly on water carried on apparatus, although quite a few communities have water holes.

Our system has worked out satisfactorily.

Arnold C. Rueckert, Chief, Portage, Wis.: The townships own the apparatus, but we make a charge of $2.00 per hour per man. The city has the right to use the apparatus inside city limits

Ready supply of water is hit and miss, and we must depend primarily on water carried on apparatus.

We have five paid and twenty-four volunteer firemen.

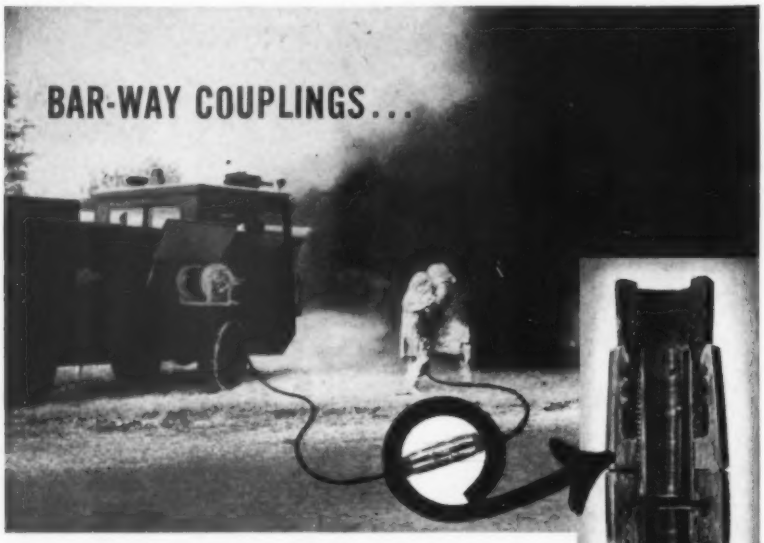
Our system has been satisfactory.

Carl O. Pierceall, Chief, Nevada, Mo.: We charge $50.00 an hour up to two hours for providing fire protection to outlying areas. We have a radiius of three miles that is covered by insurance policies at an extra fee.

We must depend on water carried on the truck.

We have nine paid full-time firemen.

Our system has worked out satisfactorily.



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HERE IS THE QUESTION FOR THE NEXT ISSUE

1. Have any lives been lost, or fires started, in your city in recent years as a result of smoking in bed? If so, how many cases are on record, particularly during the past two years.
2. Have you any city ordinance or state law designed to reduce this hazard?
3. If so, what are the provisions of such ordinance or law?
4. Has it proven effective in re-during the number of fires caused by smoking in bed?
5. What other measures do you feel would be helpful in checking this hazard?

James F. Hanna, Chief, Milton, Mass.: We have a mutual aid agreement with Quincy and Boston. Our department is fully paid.

Horace E. Blanchard, Chief, Belfast, Me.: All towns here have a fire department of their own, but we help in case of a large fire. The charge is $1.25 per man per hour and ten men go.

We use a 1000-gallon tank truck for out-of-town fires.

This is a paid department.

Harry Keith, Chief, Corbin, Ky.: We provide fire protection to towns within a mile outside of city limits. We charge $100.00 for each run. This is a prearranged contract.

We must depend on water on fire apparatus. We carry 200 gallons on each truck.

Our department has ten paid men and fifteen part-paid.

We have saved a few homes and two big motels, so feel that our system is working out satisfactorily.

Robert B. Mills, Chief, Cheviot Ohio: We make a charge of $130.00 an hour for the first hour and $30.00 an hour for each additional hour. This is paid by the township.

In some areas we can rely on hydrants for our water supply, but in others we have to rely on ponds, cisterns and the 125 gallons carried on the truck.

We have five paid and seventeen part-time firemen.

G. H. Lovestone, Chief, Swift Current, Sask.: The rates for providing outside protection depend on the distance and the time spent at fires. These charges are paid by the insurance company.

As our truck only carries 210 gallons of water, farms must supply water.

We are a volunteer department.

We have been able to give assistance on several occasions outside the city, but are usually handicapped by a shortage of water.

George Y. Deacon, Chief, Lachute, Que.: The town charges $50.00 per hour for answering a call for a fire in surrounding areas.

The volunteer chief is paid $2400.00 a year and $100 a month is divided

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among the twenty-two volunteer firemen in proportion to each man's turnout. We have one practice a month, and any volunteer not turning out gets nothing that month.

We depend on what we have for water and on the streams within reach.

A. R. Bosch, Chief, Bellevue, Ky.: We are part of the Northern Kentucky move-up system and those who belong are not charged for fire protection. We are a part-paid department.

E. E. Edney, Chief, Hendersonville, N. C.: We do not make any charge for providing fire protection to surrounding areas. We do not think this system is satisfactory as the city loses money on every call it answers.

We must depend on water carried on the truck for our water supply.

We are a paid department.

W. H. Hardy, Chief, West Point, Miss.: We charge $25.00 a call for responding to fires out of town.

Some of the farms have ponds that we can use.

We are a volunteer department.

S. E. Ayers, Fort Scott, Kansas: We do not provide fire protection to surrounding areas. We are a paid department

William J. Sudeith, Chief, West St. Paul, Minn.: We do not furnish protection outside of our city.

We have eight paid men and the rest volunteers.

A. S. Willis, Chief, Hope, Ark.: We charge $30.00 for grass or residence fires and $100.000 for an industrial fires.

We must depend upon water carried on apparatus.

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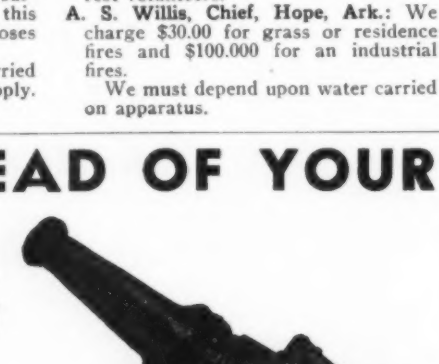

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We are part paid and part volunteer.

Our system has been satisfactory.

L. E. Meaux, Chief, Eunice, La.: We do not make any charge for providing fire protection to outside communities.

We have five paid drivers and the rest of the department is volunteer.

H. V. Landwehr, Secretary, Babylon, L. I., N. Y.: We make a charge of $15 per $100.00 assessed valuation for providing fire protection to outside communities.

We must depend upon water carried on our truck.

We are a volunteer department.

Gordon Johnson, Chief, Iron River, Mich.: We make a charge of $75.00 per call for providing fire protection to outlying communities.

Some of the communities we serve have mains, but in other cases we must depend on the 200 gallons carried in our truck.

We are both paid and volunteer.

Thomas Carroll, Chief, Fairfield, Conn.: The five departments in the town cover all sections. We make no charge for this service.

A very few sections of the town do not have city water. In these sections booster pumps must be used unless a creek or pond is near.

We are part paid and part volunteer. Two paid men are on duty in each of the fire houses at all times.

Wright Hedges, Chief, Atlantic, Ia.: We do not make any charge for providing fire protection to surrounding areas, but rely on donations.

Some farms provide a supply of water, but we depend on water carried on apparatus.

L. C. Thum, Chief, Dunbar, W. Va.: We make a charge for providing fire protection but do not force payment.

We must rely on water carried on apparatus.

We are a part paid and part volunteer department.

M. C. Novicki, Chief, Columbus, Neb.: The city Council charges the rural district $500.00 a year for housing the truck in city station and for the use of equipment on truck. The city owns all the hose, extinguishers and small tools on the truck while the rural district owns the truck only.

No additional charge is made within our own rural district or our neighbor district with which we have a mutual aid agreement. However, those farmers to the northwest that had a chance to come into our district and didn't will be charged a minimum of $25.00 for each run.

This is our first year and our men want to do this free as a community service to our farm friends. The rural board has furnished all the lunches and refreshments for our department meeting.

We use the rural truck on city calls especially on residential fires. It carries 500 gallons of water and in ninety per cent of the fires, this amount is enough to stop the fires.

We have four paid men—two on each shift—and fifty-eight volunteers.

Our system has worked out satisfactorily so far.

Charles A. Hill, Chief, Jennings, La.: We do not make any charge for providing fire protection to outside areas, although sometimes we receive donations from the oil companies.

We do not have a ready supply of

water in these areas and must rely on water carried on the truck.

We are a volunteer department.

J. B. Mayo, Chief, Lead, S. Dak.: We provide fire production to outlying areas without charge. These are mining areas and we feel that pine timber used in the mines could set the whole town on fire if not put out where the fire starts.

We have to depend on the 100 gallons carried on our pumper.

We are a paid department.

We are satisfied with how the system has worked out, especially in the hills.

H. Lester Craig, Chief, Metropolis, Ill.: We do not make a charge for providing fire protection. The only thing we receive is good will.

We must depend upon water carried on the truck.

We are a part-paid department.

Our system has only been partly satisfactory.

R. L. Miller, Chief, Marysville, Cal.: We do not provide fire protection to surrounding areas.

The local fire districts depend primarily on water carried on apparatus.

We have fourteen paid and twelve call men.

Our system has been satisfactory, but we plan to add more call men. We have an average of nine call men at each alarm and attendance at drills is very good.

W. E. Mills, Chief, Roseburg, Ore.: At one time we did provide fire protection to surrounding communities, but not any more. We charged $50.00 for this service.

We had to depend on water carried on the apparatus for our supply.

We are a part-paid department.

W. F. Brittle, Chief, Warrenton, Va.: We are a volunteer department and do not receive one cent of tax money or support from county or state. We are self-supported mainly from an annual two-night carnival and some private donations.

Our county has an area of 660 square miles, and we answer calls to any point in our county plus any neighbor county or town at no charge to anyone. We have never refused to answer a fire call in our twenty-eight years of operation.

We maintain and operate four 500-gallon combination pumpers, own and operate our own two-way radio 60-watt station with three pumpers equipped with 60-watt two-way radio. We have portable pumps, light plants, portable iron lung and carry foam equipment on all trucks.

We have thirty-six active members. We drill once each week and hold a business session once each month.

Our town has a population of less than 1600 persons and other departments may wonder how we have been able to maintain such a department. We have the support of the people in this area because they are receiving service and they know we are ready to serve.

We answered 128 calls last year with a total mileage to and from alarms of 1470 miles. Only eighteen of these alarms were inside our own town.

E. H. Cachell, Chief, Brownsville, Ore.: We are a town of approximately 1400 located at the edge of the Cascade range in the Willamette Valley.

Our department furnishes fire protection to rural areas, working on a

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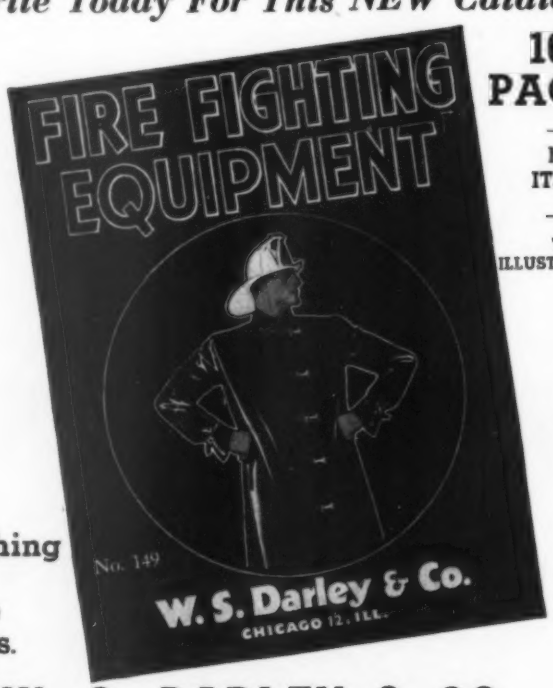

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1 mill tax. This is one of the lowest tax rates in the state. Our state is made up of rural fire protection districts which are taxed as the need demands.

Our department when in full strength consists of a chief, assistant chief and eighteen regular members with an auxiliary crew of ten men to conform with civil defense requirements. We are all volunteer.

Beginning on March 1 each regular member receives from the city seventy-five cents for each meeting and drill. This amount will then be deducted from our water bill.

We have three pieces of rolling equipment, a 500 gpm pumper with a 250-gallon booster which is city owned; a 250 gpm booster and pumper combination carrying 980 gallons is owned by the rural district. Our pride and joy is a 900 gallon truck mounted with a 600 psi high velocity fog pump with two reel lines which is owned jointly by the city and the rural district. All equipment is housed and manned by the city. On bad city fires we may use all three trucks. Our fog truck is the first one to go all fires.

On nearly all rural fires we depend on the water we carry.

Quite often we receive donations which go into our department treasury. We also put on dances, ball games and other special shows. Our proceeds go for civic improvement. We recently put lights on our ball park, a new roof and heating plant in the city dance hall.

One thing that other departments may soon run up against is the alarm system. Until about a year ago we had a phone system with an operator. She received alarms, blew the siren and furnished firemen with directions. With the advent of the dial system, we had trouble.

We finally came up with this solution. We made up two party lines with six phones on one line and four on the other. Both lines have the same number. If one line was busy or out of order, the other line gets the ring. These phones are situated in business places and in firemen's homes so as to have 24-hour coverage. The person answering the phone gets the information and blows the siren by means of a button on side of phone.

Our rural district is set up on a card system, and is now working on a similar system in town with hydrant numbers the key to house fire number.

Our rural district directors are very fine people to work with and we have no complaints except that we, like most other small departments, never have enough equipment.

Jack K. Boyer, President, Taos Volunteer Fire Department, Inc., Taos, N. M.: Since the organization of our Fire Department in 1933, we have furnished fire protection for Taos County in addition to our primary mission of protecting the Town of Taos. Taos County is about 60 miles in length and 30 miles in width with an average altitude of 7000 feet and with many high mountains and streams flowing into the Rio Grande which cuts the County in half. The population of Taos County is 17,000 and of Taos about 2000 people. Until 1950 we received no money for county protection, and since that date we receive $1000.00 annually to help defray the cost of county alarms. While this money does not cover the total costs.

it helps and we feel that the good will and the aid we can give make up the balance.

We are a volunter department of 27 men (one paid man living at fire station) and up to 10 trainee firemen. Our men receive no money as firemen but pay $15.00 per year as dues. We have 3 fire trucks—1951 500-GPM American LaFrance pumper, 1946 400-GPM Darley Chevrolet, and 1936 500-GPM American LaFrance pumper. The 1951 pumper has 500-gallon booster tank, the Darley has 300-gallon tank and the 1936 pumper has a 100-gallon tank. The Department is divided into three companies who rotate on a four months service on each truck. The Darley is used as the county rig, carrying 2000 feet 1½" CRL hose, 500 feet 2½" CRL hose, 400 feet booster hose, portable pump, ladders, extinguishers, gas masks, first aid and rescue equipment, salvage and overhaul equipment, inhalator and extra fire tools for grass and brush fires.

As all of our farms must use water to irrigate the crops, we usually have plenty of water to draft from, but most of the fires are extinguished by the booster tank. We average about 40 calls per year to fires outside the corporate limits of Taos. The money is paid to us by the County Commissioners from county funds. Since receiving this financial aid we find our system is quite satisfactory and we feel that we are doing a good job.

With Our Readers

Comments on Harrow Crash

To the Editor:

I would like to comment, if I may, on the report (pages 956-7) of your November 1952 issue, about the train crash at Harrow and Wealdstone on October 8.

FIRE ENGINEERING is not quite correct in saying that in the United Kingdom there is a lack of readily-available heavy duty rescue equipment; a number of Fire Brigades in larger centers have mobile cranes and breakdown vehicles capable of lifting weights of up to 50 tons. Quite obviously, though, a railroad smash involving locomotives weighing several hundred tons calls for extraordinary lifting equipment and specialized technique. Such services are available through the medium of British Railways breakdown gangs equipped with heavy steam cranes, jacks and other equally massive tackle. These can be brought to the scene of an accident within reasonable space of time.

Every Brigade in this country is able to deal with emergency rescue calls. Special emergency tenders, having cutting apparatus, jacks and other tackle are available to respond to calls and, in addition, a large number of Brigades have breakdown vehicles with cranes fitted which can handle overturned cars, buses, lorries and tramcars.

I can say that Fire Brigades here are very well equipped to deal with emergency calls, though railway disasters involve the use of equipment which only British Railways can maintain and operate.

London, Eng. G. F. D. PRATT, Editor
Dec. 17, 1952 Fire Protection Review

No lubrication necessary
Carbon bearings (oilless)
2 Piston-finished stainless steel shafts
Bronze housing (Oberdorfer alloy No. 741)
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BRONZE BOOSTER PUMPS

These booster pumps with oilless bearings will last 3 to 5 times longer than the old style equipped with plain bronze bearings. As a result of closer machining tolerances, over 20 feet of suction lift may be depended on.

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13	1600	120	500'—1½"	20'	75

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360 DEGREE FRESNEL FLASHING WARNING LIGHTS

are most effective for all types of emergency work, both day and night. Style No. 41 mounts on vehicles. Style No. 40 is a portable unit and can be placed wherever required.

Red is standard. Blue, Green or Amber can be furnished.

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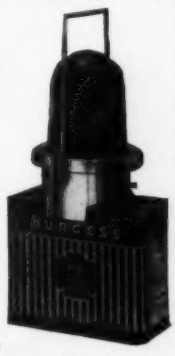

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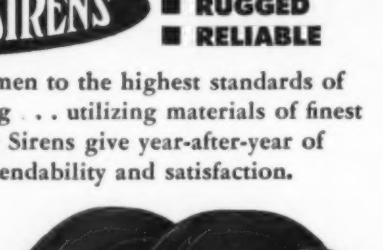
Quick acceleration, power-plus . . . Model M really gets the boys out in a hurry! Used by championship companies from coast to coast. A dependable, heavy-duty siren built of the finest materials throughout.



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LOWEST COST per kilowatt, HIGHEST OUTPUT per pound, MOST COMPACT!

For any use . . . standby, mobile, portable or stationary, the new Onan CW-5 and CW-10 give you top performance and value! Here, for the first time, are 5 and 10KW electric plants powered by engines *designed and built by Onan exclusively for electric plant use.*

Both engines are 1800 R.P.M. Weigh less and are much more compact than general-purpose engines. Two-cylinder, alternate-firing design. New vacuum air cooling. High-tension magneto ignition. Standard voltages 60-cycle A.C.

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News of the Manufacturers

(*Continued from page* 213)

land Cement Association, 33 West Grand Ave., Chicago, Ill. It is called "Fight Farm Fires—Build a Concrete Fire Cistern," and may be had upon application to the Association. The cistern shown in detail in this colorful pamphlet should pay for itself many times over in an emergency. It is easy and economical to install. Farmers in a Class A rural fire district need no longer wait for a fire to benefit from their fire cistern. Most insurance companies, according to the Association, allow a credit in rates if a permanent water supply is provided.

Ansul Extinguishers in Movies

An Ansul dry chemical fire extinguisher plays a part in a recent Paramount Pictures release entitled "The Blazing Forest," featuring John Payne.

In the picture, the extinguisher is used to knock down flames to effect a rescue.

This marks the second time dry chemical equipment has played a part in the movies. Two years ago, a "March of Time" film on volunteer fire departments showed how dry chemical was used to put out a large gasoline fire.

Hamilton Program

(*Continued from page* 206)

ment that five years ago was rated as only "fair." But Chief Schlotterbeck and his men are not satisfied. The pace of improvement continues. Whatever and better in fire control and extinction, develops as the years pass, that is new will get a thorough going-over by the Hamilton, Ohio, Fire Department.

1952 Operations

In the year 1952 the Hamilton Fire Department responded to 1,238 alarms, of which 298 were for fires in buildings. Fires in other than buildings amounted to 226. There were 34 false alarms and 21 "non-malicious" false alarms.

The life squad answered 366 calls. Total fire losses for the year were $209,720.00, compared with $93,960 in 1951.

The department extinguished 411 fires with 1-in. hose lines; 85 with 1½-inch; 43 with one 3½-inch, 32 with two 2½-inch and 4 fires with three or more 2½-inch lines. CO_2 was used on 11 fires.

During the year the department traveled 4,350 miles; used 1,299,362 gals. of water; raised 7,389 ft. of ladders and laid a total of 120,470 ft. of hose.

Firemen Lose Home by Fire

The Searles, N. D., Fire Department, lost its home early Jan. 3rd last, in a blaze that destroyed all of its fire fighting equipment but "two reels of hose."

By the time firemen reached the burning "hall"—a frame and sheet metal building 15 x 30 ft. in size and of uncertain age, the fire had sufficient start to prevent them from entering the structure to remove the apparatus, which was destroyed.

Damage also included wreckage of the city's water system pump, situated over the reservoir, which was located under the building. The reservior itself reportedly was undamaged.

The department, which numbers about 25 volunteers, is headed by Fire Chief Ralph Hendrickson.

F.D.I.C. Meeting

(*Continued from page 207*)

He reduced as many of the technicalities of the chemical and atomic era to simple terms as time permitted—and was voted a return engagement.

A skit entitled "Your State Association Convention" by J. W. Just, served as a pleasant interlude, after which R. C. Malmquist, Fire Chief, Minneapolis Fire Department, and members of the "Explorer Scout Emergency Service" told about the development of the latter, which brought its new emergency unit all the way from Minneapolis. This truck later was demonstrated, by the Scouts at the Memphis Fire Department's Training Ground. Crews of the Memphis Fire Department participated in evolutions designed to show various hookups. This session was directed by Joe I. Fetters of the Univ. of Nebraska.

The evening was given over to showings of latest motion picture films, in charge of M. I. Parker, Chief Eng., Missouri Inspection Bureau.

The second question box panel led off on Thursday, with John L. Thompson, Asst. Mgr., Ky. Inspection Bureau, as quizmaster. A wide variety of topics were discussed by the group, which included Messrs. Barnett, Carpenter, Cowan, Dague, Murphy and Overley.

Sister M. Desideria, O.S.B., R.N. Education Dir. Sacred Heart Hospital, Yankton, S. D., spoke on "Implementing Hospital Fire Safety." She advocated four steps for a sound safety program: (1) Fire prevention; (2) fire detection; (3) fire control; (4) evacuation.

Robert F. Hamm, Dir. Firemen's Training, Indiana Rating Bureau, urged full-time fire department instructors. The regional or state fire college, he said, cannot take the place of a full-time instructor with continuous training program.

Speaker at the day's luncheon session was Hon. Clifford Davis, U. S. Congressman, who first invited the FDIC to Memphis, 19 years ago. He was introduced by Frank R. Ahlgren, Editor, Memphis Commercial Appeal.

The entire afternoon was devoted to lectures and fire fighting tests of water fog. W. B. Larkin, Eng. Missouri Insp. Bureau, and Emmett T. Cox, Chairman, Exploratory Committee on Application of Water, reported on technical aspects of fog applications, after which delegates were taken to So. Lauderdale St., Memphis, where they had opportunity to observe practical application of water fog on two frame dwellings, condemned to make way for a housing development. Crews of the Memphis Fire Department, directed by Fire Chief John Klinck, Commissioner Claude Armour and Instructor Scott, aided by visiting chiefs, handled the lines and ladders.

The final day's sessions included another quiz panel which discussed the pros and cons of the previous day's tests. Participating were Messrs. Arnold, Baldwin, Chase, Dimond, Kuhlman, Layman, Robinson and Wolff. Emmett Cox served as quizmaster.

Herbert A. Friede, Chief Electrical Engr., Washington, D. C., told about developments in radio communications. He was followed by George R. Layden, Chief Engineer, Peter Pirsch & Sons Co., Kenosha, Wis., who stressed the essentials of good preventive maintenance, comparing it with regular checkups of a person's physical condition by

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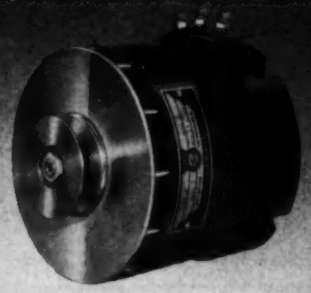

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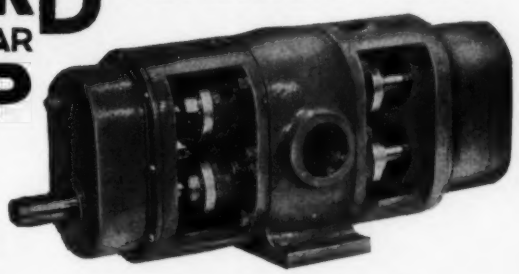

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Whatever the Weather—
Work Warm and Dry

Real protection, with comfort plus! That's what a Globe Suit has meant to firemen for more than half a century.

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GLOBE DURABLE FIREMEN'S **SUITS**

GLOBE MANUFACTURING CO. PITTSFIELD, N. H.

a capable doctor. He urged complete written reports of each check-up, and the use of photographic evidence in presenting visual data on apparatus.

Kyle P. Laughlin, Dir. Federal Civil Defense Admin., brought civil defense "up-to-date" for the delegates, expressing hope for a broadening of federal, state and local effort.

As usual, following the noon luncheon, which was also served by the Memphis Fire Department, there followed the "Annual FDIC Follies" with a splendid cast, including the Memphis F. D.'s own stringed entertainers.

The business sessions continued right up to the final gong, with A. J. Steiner of Underwriters' Laboratories graphically reviewing the more recent developments in his lecture, "The Facts Shall Make You Free".

The final round table discussion, headed by Robert Byrus, Univ. of Maryland, as moderator, delved into "Bugs in Training Programs." The comments of panel members Hirst, Smith, Swain, Townsend and Ward were enthusiastically received by the audience.

Following a brief remarks on the value of your local radio by George Gow, News Ed., Radio Station KANS, Wichita, Col., H. R. Brayton wound up the business sessions with his "Annual FDIC Broadcast."

Five-minute summaries of each day's events were given by Dale A. Auck, Dir., Fire Prot. Div., Fed. of Mutual Fire Ins. Co.'s, Chicago; Prof. R. J. Douglas, Head, Fire Prot. Dept., Oklahoma A. & M., and A. L. P. Schmeichel, W. Va. Inspection Bureau. A number of other selected speakers reviewed short subjects during the week, among them Batt. Chief A. M. Grunwell, District of Columbia F.D., who told about the recent disastrous explosion in an appliance store, which sent him and over 40 other fire fighters, including Fire Chief Sutton, to the hospital.

Firemen Suspended for Outside Work

J. H. Morton and W. O. Black, two members of the Charlotte, N. C. Fire Department, were suspended February 16th for painting a house.

Firemen are often awarded, or commended for saving a house from flames, but in Charlotte, when a firemen wields a paint brush to "doll up" a house, he's likely to find himself out of a job.

The suspension of the two firemen resulted from a complaint by L. D. Bass, president of the Charlotte Chapter of Painting and Decorating Contractors of America. In a letter, Bass pointed out that a fireman in Charlotte cannot engage in any work outside of the department in competition with any labor, trade or profession.

Morton and Black were suspended by Chief Donald Charles pending a hearing of the case before the Charlotte Civil Service Commission.

The two men involved have no other mark against them. Black joined the Fire department August, 1948, and Morton has served with the department since 1942. Under civil service laws, a fireman can do house-painting on his own property, or other members' property, but cannot contract to do such work for other individuals.

D. C. SPENCER

Fire Department Rescue

(*Continued from page 205*)

be a heart case of the type in which the victim cannot breathe lying down.

Some of the factors which should be considered in choosing the type of resuscitator for the Fire Service are:

1. A machine that has been accepted by the American Medical Association for use by trained lay personnel.
2. A machine most adapted to emergency use: Light in weight; careful workmanship: sturdy construction; quick replacement of tanks; care of more than one victim at a time.
3. A machine in which all parts are so designed as to give long and lasting service.
4. A machine that is so designed and constructed that lay personnel cannot easily disassemble and tamper with intricate parts and set pressures.
5. A machine so designed that there is room to carry certain extra articles important to good practices.

It is good practice to carry within the case, in addition to regular accessories, the following items: a towel; wooden tongue depressors in a sealed envelope for pulling the tongue forward to insert the airway; a wrench for attaching a large tank in prolonged cases; a gauze mask for the operator to wear in pneumonia cases; a pair of diagonal cutters when there is an expectancy of response to suicidal attempts; and a loose leaf memo book. In the memo book there should be notations of the phone numbers of available doctors, oxygen therapy equipment suppliers, ambulance services, hospitals, the local Health Department and other information that might be important to the emergency or beneficial to the victim. In addition there should be printed forms for filling in information necessary to a report and forms for the signature of victims or relatives of the victims relieving the fire department of responsibility when such victims refuse the services of a doctor.

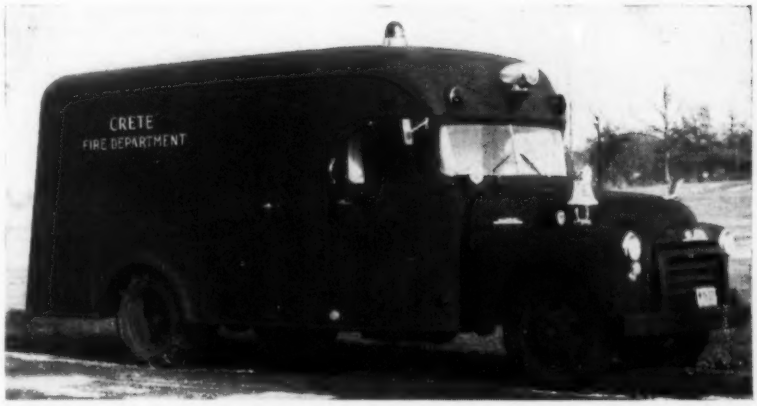
At least four small spare tanks of oxygen should be carried in the Rescue apparatus and one large 110 or 220 cubic foot capacity tank for prolonged cases or cases where there is more than one victim to be taken care of. Large spare tanks should be kept in stock.

The Oxygen Humidifier and Reducing Valve or "bedside unit" can be a valuable adjunct to the resuscitator. There are cases where oxygen must be administered throughout the night or until bedside units can be obtained from private concerns. To have such a unit to lend along with the 220 tank of oxygen can make it possible for the operator to be relieved much sooner. Oxygen is humidified in prolonged cases or those exceeding 18 hours to prevent drying of the lung tissue and possible development of pneumonia.

When response is made to a home that is quarantined or there is suspicion of a contagious or communicable disease, every precaution should be taken by prearranged plan with the Health Department to prevent the spread of disease. Prevalent communicable diseases are: epidemic cerebro-spinal meningitis, poliomyelitis, Asiatic cholera, yellow fever, typhus fever (louse borne), plague, small-pox, diphtheria, membranous croup, cholera.

Any equipment used in Rescue that has been exposed to an unsanitary condition should be made sanitary im-

GERSTENSLAGER
Rescue Cars



For safety departments who want the best there is

There is no place for makeshift, compromise, or "second best" in the equipment program of the modern safety department. The responsibilities of the emergency unit, squad car, first aid truck, or rescue car—whatever it may be called—are too important to justify anything but the highest quality in design and construction.

That is why Gerstenslager Rescue Cars are built to individual specifications for the metropolitan safety department, suburban community, or volunteer department—exactly the way you want them.

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WATER when and where you want it!

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Portable Canvas Water Tanks

THE ECONOMICAL AND EFFICIENT WAY TO CARRY AND STORE WATER.

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Available in 150 & 300 gallon sizes

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JN 200 JUMBO

MYSTERY NOZZLE

Used by the Navy on Fire Boats in World War II, the JN 200 has a capacity of 1500 gallons per minute. It has 3½" National Standard threads and can be adapted to any 2½" Fire Department thread. Equipped with handles for adjusting the stream it features all the various degrees of fog—straight stream and shut off. Solid straight stream size range from booster to deluge. It is recommended for fire boats, portable deluge nozzles, turret guns and wherever water volume and fog are required. Lightweight—made of high tensile aluminum.

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The "NEW YORKER"
(Leather)

CAIRNS HELMETS SINCE 1836

Write for Catalog 341

CAIRNS & BRO., Inc. - Allwood, Clifton, N. J.

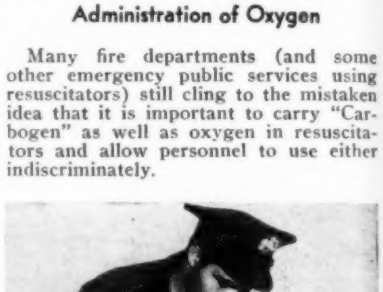
The "CLIFTON"
(Plastic)

The "SENATOR"
(Aluminum)

mediately upon return to quarters. Equipment of the type that comes into personal contact with victims, having been used or exposed to contamination, should be sterilized immediately upon return to quarters. The face mask of the resuscitator should be washed in hot water and medicinal soft soap and rinsed and dried. Do not use alcohol as alcohol will "cloud" the plastic parts. Two hours exposure to sunshine is always beneficial. Never use grease or oil on the resuscitator. Do not use gasoline on any rubber equipment.

Administration of Oxygen

Many fire departments (and some other emergency public services using resuscitators) still cling to the mistaken idea that it is important to carry "Carbogen" as well as oxygen in resuscitators and allow personnel to use either indiscriminately.



Checking pressure of small tank with yoke to commercial connector, commercial end plugged.

For some years past there has been quite a bit of controversy, in medical and other circles, over the use of oxygen mixed with carbon dioxide, or "Carbogen," as a resuscitative gas. "Carbogen" may be a mixture ranging from oxygen 95% and carbon dioxide 5% to oxygen 85% and carbon dioxide 15%. It was agreed by most of those who were active in the issue that the use of carbogen could have ill effects in some cases, such as heart ailments, and sometimes even produce fatal results; however it was held by some that recovery was quicker in cases such as carbon monoxide poisoning.

It is true that carbon dioxide stimulates the phrenic nerve (one on each side of the neck) which is the nerve governing respiration. It is also true that as long as there is circulation in the body, sufficient carbon dioxide is given off to stimulate the nerve without additional carbon dioxide being administered.

Because of the importance of the issue, several nationally known groups of physicians and scientists went into research and experimented to determine facts in administering resuscitative and inhalation measures to victims of carbon monoxide poisoning.

The magazine, "Occupational Medi-

cine" in January, 1948, has this to say in conclusion of evidence given:.

"In regard to survival and the incidence and severity of neurologic sequelae, no difference was found between the use of 100 per cent oxygen and 7 per cent 'carbogen' in resuscitation from carbon monoxide asphyxia."

The Journal of Applied Physiology of November, 1948, adds this:

"The only effects of the administration of exogenous carbon dioxide are the slightly more rapid excretion of carbon monoxide and, in some cases, a more rapid restoration of respiratory movements. The significance of these effects has been exaggerated, while the much greater significance of adequate cardiac function has in large part been overlooked. Since carbon dioxide plays no demonstrable part in fortifying cardiac function and its addition to oxygen confers no further value in resuscitation, the inevitable conclusion is that it is an unnecessary therapeutic adjunct."

It is recommended that Rescue personnel not use "carbogen" except under the supervision of a doctor. To avoid confusion for new personnel, it is better to carry only oxygen tanks in the resuscitator even though a spare tank of carbogen is carried for those doctors who request its use.

Cold Day for a Hot Fire

Syracuse, N. Y., fire fighters, responding to three alarms, fought a long-drawn-out battle in three-above zero temperature on March 2, 1953, to control a raging fire in the 6-story Mowry Block which threatened the downtown area. At least 30 persons fled in nightclothes, after warnings by two Syracuse firemen who detected the blaze as they were en route to duty about 7:25 A.M. These men, Lieut. Lewis Gaurnier and Fireman John Murphy, sounded the alarm and went through the building to alert the occupants. About 20 fifth floor tenants made their way down rear fire escapes. Others were taken down fire ladders.

Cause of the fire, which did damage of upwards of $500,000 to the 30-apartment building, including six stores on the ground floor, was not immediately determined. Fire Chief William J. Connelly attributes the spread to an old elevator shaft, and concealed roof spaces.

Fire fighters, who used many heavy streams from every vantage point, employed "walkie-talkies" to communicate from the streets to crews operating on roofs.

Alerted to Syracuse fire fighters, under the County's mutual aid system, were about 100 firemen from Solvay, East Syracuse, Mattydale, Nedrow, Taunton, Lyncourt and Liverpool. Four fire fighters received minor injuries, but many suffered from the bitter weather, which failed, however, to detract crowds of the curious.

Another Firehouse Burns!

Volunteer firemen of the southern Idaho town of Delco stood idly by in the snow early on the morning Dec. 11, last, and watched their fire station burn to the ground.

The blaze was so intense by the time fire was discovered, that the vamps could not get their equipment out of the building. It, too, went up in smoke.

HE PROBABLY THINKS SHE'S AS BEAUTIFUL AS AN ANSUL FIRE EXTINGUISHER..
..YEA..BUT HE'LL FIND SHE'S NOT NEARLY SO EASY TO HANDLE!
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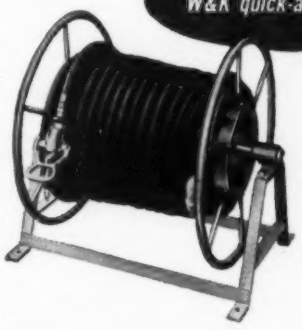

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2 **NO WAITING FOR WATER** A full stream of water is maintained when you are unreeling the hose and advance toward the fire. A swivel joint permits uninterrupted flow while reel is revolving.

3 **ELIMINATES KINKS AND TANGLES** You unreel only enough hose to go directly to the fire. No time is lost for straightening out kinks and tangles.

4 **UNIVERSAL MOUNTING** The hose reel with universal mounting stand can be easily installed on walls, columns, ceilings, floors.

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Convention Dates

Mar. 18-20—ARKANSAS FIRE SCHOOL. Annual meeting, Little Rock, Ark. Director, John E. Hurley, 616 Beach Street, Little Rock.

Apr. 10-12—CALIFORNIA RURAL FIRE ASSOCIATION. Annual meeting, Fresno, Cal. Secretary, Clifford A. Ommert, 55 Cambridge Way, Piedmont 11, Cal.

Apr. 12—MISSOURI REGIONAL FIRE SCHOOL. Annual meeting, Union, Mo. Director, J. I. Fetters, Adult Education & Extension Service, University of Missouri, 23 Jesse Hall, Columbia, Mo.

Apr. 13-17 (tentative)—LOUISIANA STATE FIRE COLLEGE. Annual meeting, Baton Rouge, La. Director, Chief Robert A. Bogon, P. O. Box 96, Baton Rouge, La.

Apr. 19-21—NEBRASKA STATE FIRE SCHOOL. Annual meeting, Grand Island, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School director, Otto B. Johannes, Columbus, Neb.

Apr. 20-24—OKLAHOMA FIRE COLLEGE. Annual short course, Ponca City, Okla. Director, Professor R. J. Douglas, Fire Protection Department, School of Technical Training, Campus Fire Station, Stillwater, Okla.

Apr. 26—NEBRASKA REGIONAL FIRE SCHOOL, Crete, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

Apr. 27-May 1—ARSON INVESTIGATORS' SEMINARY. Annual meeting, Purdue University. Director, J. L. Lingo, Director, Public Safety Institute, Purdue University, Lafayette.

Apr. 27-May 1—MINNESOTA STATE FIRE SCHOOL. Annual meeting, Agricultural School of the University of Minnesota, St. Paul, Minn. Chairman, Dr. J. O. Christianson, Superintendent, School of Agriculture, University of Minnesota, St. Paul, Minn.

May 1-July 1—CALIFORNIA TECHNICAL INSTITUTE OF FIRE TRAINING. Meetings in Sacramento, Oakland, Fresno, Los Angeles and San Francisco. For information, contact the Director, Thomas S. Ward, Supervisor of Fire Training, State Department of Education, Sacramento 14, Cal.

May 3—NEBRASKA REGIONAL FIRE SCHOOL, Beemer, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

May 11-13—NORTH DAKOTA TEACHER-TRAINER FIRE SCHOOL. Annual meeting, Wahpeton, N. D. Director, Roy W. Johnson, Training Supervisor, Hillsboro, N. Dak.

May 11-15—FLORIDA STATE FIRE COLLEGE. One of four sessions to be held at Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

May 12-13 (tentative)—WESTERN KENTUCKY FIREMEN'S TRAINING ASSOCIATION. Annual meeting, Princeton, Ky. Secretary, Robert D. Beaty, 820 Crittenden St., Owensboro, Ky.

May 17—NEBRASKA REGIONAL FIRE SCHOOL, Broken Bow, Neb. Secretary, Russel D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

May 18-21—INDIANA FIRE SCHOOL. Annual meeting, Purdue University, Lafayette, Ind. Director, J. L. Lingo, Director, Public Safety Institute, Purdue University, Lafayette, Ind.

May 18-21—IOWA FIRE SCHOOL. Annual meeting, Iowa State College, Ames, Iowa. For information contact Mark Brosier, Supervisor of Firemanship Training, Iowa State College, Ames, Ia.

May 18-22—NATIONAL FIRE PROTECTION. Annual meeting, Chicago, Ill. General Manager, Percy Bugbee, 60 Batterymarch Street, Boston 10, Mass.

May 18-22—ALABAMA STATE FIRE SCHOOL. Annual meeting, University of Ala., University, Ala. Sponsored by Vocational Industrial Education Service, State Department of Education, Alabama State Firemen's Association, Alabama Association of Fire Chiefs in cooperation with the University of Alabama, College of Education; Alabama League of Municipalities, Industrial organizations and the City of Tuscaloosa.

May 18-23—CONNECTICUT FIRE COLLEGE. Annual meeting, New Haven, Conn. Director, L. W. Eddy, Supervisor, Service Training, State Department of Education, 490 Capitol Avenue, Hartford, Conn.

May 20-22 (tentative)—EASTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, New York City. Secretary, Chief Edward Clark, Box 271, Wayne, Pa.

May 23-24—OHIO REGIONAL FIRE SCHOOL. Regional meeting, Orrville, Ohio. Director, W. T. Banning, State Field Instructor, State Board for Vocational Education, 606 4th Street N. W., New Philadelphia, Ohio.

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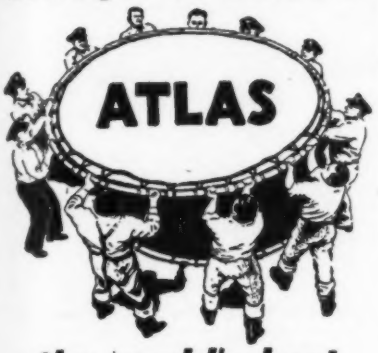

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Convention Dates

May 24—NEBRASKA REGIONAL FIRE SCHOOL. Alliance, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

May 27-29—OHIO FIRE BRIGADES ASSOCIATION. Annual Conference and School, Columbus, Ohio. Secretary, W. F. Ballard, c/o Columbus Coated Fabrics Co., Columbus, Ohio.

June 1-5—SOUTH DAKOTA FIRE SCHOOL. Annual meeting, Sioux Falls, S. D. Secretary, Robert W. Hanigan, Box 423, Pierre, S. D.

June 7—NEBRASKA REGIONAL FIRE SCHOOL. Ainsworth, Neb. Secretary, Russell D. Salak, P. O. Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

June 6-8—NEW MEXICO STATE FIREMEN'S ASSOCIATION. Annual meeting and fire school, Raton, N. M. Secretary, F. W. Wynn, Hobbs, N. M.

June 9-11—KENTUCKY FIRE SCHOOL. University of Kentucky, Lexington, Ky. Chairman, Fire School Committee, John L. Thompson, Kentucky Inspection Bureau, Louisville.

June 12-16—FLORIDA STATE FIRE COLLEGE. One of four sessions to be held at Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

June 14—NEBRASKA REGIONAL FIRE SCHOOL. Gothenburg, Neb. Secretary, Russell D. Salak, Box 312, Schuyler, Neb. School Director, Otto B. Johannes, Columbus, Neb.

June 15-18—ILLINOIS FIRE COLLEGE. Annual meeting, Smith Music Hall, University of Illinois, Champaign-Urbana, Ill. Secretary, R. W. Alsip, Box 8, Champaign, Ill.

June 17-20—COLORADO STATE FIREMEN'S ASSOCIATION. Annual meeting, Pueblo, Colo. Secretary, Arthur J. Becker, 4250 Stuart Street, Denver 12, Colo.

June 18-20—SALT LAKE CITY FIRE DEPARTMENT ANNUAL FIREMEN'S TRAINING SCHOOL. Annual meeting, Roosevelt Junior High School, Salt Lake City, Utah. Sponsored by Salt Lake City Fire Department, Salt Lake City Area Vocational Training School and the Utah Department of Industrial Education. Director, Assistant Chief D. E. White, 144 East First South, Salt Lake City, Utah.

June 22-25—NEW ENGLAND ASSOCATION OF FIRE CHIEFS. Annual meeting. Wentworth-by-the-Sea, Portsmouth, N. H. Secretary-Treasurer, Chief John W. O'Hearn, 206 Mt. Auburn Street, Watertown, Mass.

June 22-27—MISSISSIPPI STATE FIRE SCHOOL. Annual meeting, Mississippi State College, State College, Miss. Sponsored by Mississippi State College, State Department for Vocational Education and the Mississippi State Firemen's Association.

June 23-26—MICHIGAN FIRE SCHOOL. Annual meeting. University of Michigan, Ann Arbor, Mich. Director, M. D. Whale, c/o Department of Public Instruction, Office of Vocational Education, P. O. Box 928, Lansing.

June 25-27—SASKATCHEWAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Saskatoon, Sask. Secretary-Treasurer, Chief G. M. Beach, Weyburn, Sask.

July 8-11—WASHINGTON STATE FIRE SCHOOL. Annual meeting, Aberdeen, Wash. Director, Captain R. J. Cook, Assistant State Supervisor of Fireman Training, P. O. Box 250, Olympia, Wash.

July 8-11—WASHINGTON FIRE SCHOOL. Annual meeting, Aberdeen, Wash. For information, contact Aberdeen, Wash., Fire Department.

July 13-15—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual meeting, Omaha, Neb. Secretary-Treasurer, Chief Ray Tiller, 319 East 5th Street, Waterloo, Ia.

July 20-24—FLORIDA STATE FIRE COLLEGE. One of four sessions to be held in Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

July 21-24—DELAWARE SHORT COURSE FOR FIREMEN. Annual meeting, Dover, Dela. Director, A. B. Anderson, Assistant State Director for Vocational Education, 511 W. 8th Street, Wilmington, Dela.

July 27-30—MISSOURI FIRE SCHOOL. Annual meeting, University of Missouri, Columbia, Mo. For information, contact J. I. Fetters, Administrative Associate, Adult Education and Extension Service for Firemanship Training, University of Missouri, Columbia.

July 27-31—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, West Vrginia University, Morgantown, W. Va. Director, R. E. Hanna, Jr., Fire Service Extension Schools, West Virginia University, Morgantown, W. Va.

Aug. 1-2—OHIO FIRE SCHOOL. Regional school, North Canton, Ohio. Director, W. T. Banning, State Field Instructor, State Board for Vocational Education, 606 4th Street N. W., New Philadelphia, Ohio.

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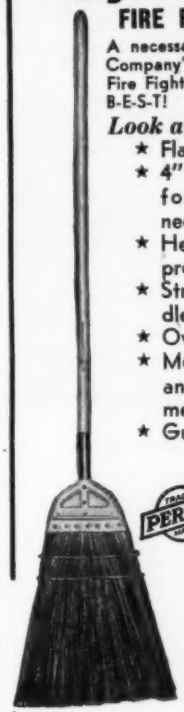

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Convention Dates

Aug. 10-12—WISCONSIN FIRE SCHOOL. Annual meeting, University of Wisconsin, Madison, Wis. Director, J. J. Lichty, Bureau of Community Development, Madison 6, Wis.

Aug. 21-25—FLORIDA STATE FIRE COLLEGE. One of four sessions to be held in Ocala, Fla. Director, J. W. Barnett, Superintendent, P. O. Box 785, Ocala, Fla.

Aug. 24-28—TEXAS FIREMEN'S TRAINING SCHOOL. Annual meeting, Texas A. & M. College, College Station, Tex. Director, H. R. Brayton, Fire Service Training, A. & M. College, College Station, Tex.

Aug. 24-28—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Middle Tennessee State College, Murfreesboro, Tenn. Director, W. A. Seeley, State Supervisor, Trade & Industrial Training, 202 War Memorial Building, Nashville, Tenn.

Aug. 26-29—MONTANA STATE FIREMEN'S SCHOOL. Annual meeting, Polson, Mont. Director, Clayton Brown, Polson Volunteer Fire Department.

Sept. 8-10—PACIFIC COAST INTER-MOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Tacoma, Wash. Secretary-Treasurer, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Sept. 8-11—OHIO STATE FIRE SCHOOL. Annual meeting, Port Columbus Naval Air Station, Columbus, Ohio. Director, Foss H. Gragg, Deputy State Fire Marshal, 607 Wyandotte Building, Columbus 15, Ohio.

Sept. 8-11—MARYLAND SHORT COURSE FOR FIREMEN. Annual meeting, University of Maryland, College Park, Md. Director, Robert C. Byrus, Fire Service Extension, University of Maryland, College Park, Md.

Sept. 14-18—VIRGINIA STATE FIRE SCHOOL. Annual meeting, Number 9 Fire House, Norfolk, Va . For information, contact Fire Marshal Clay A. Easterly, Director, P. O. Box 1112, Martinsville, Va.

Sept. 14—CANADIAN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Allan Clark, Fire Headquarters, Lakefield, Ont.

Sept. 15-18—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Toronto, Ont. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass. General Manager, James E. Jagger, Hotel Martinique, Broadway and 32nd Street, New York 1, N. Y.

Oct. 20-23—KANSAS STATE FIRE SCHOOL. Annual meeting, University of Kansas, Hutchinson, Kans. Director, Gerald Pearson, Director Extension Classes, 111 Fraser Hall, University of Kansas, Lawrence, Kans.

Persons in the News

Val Peterson Heads FCDA

Val Peterson, former Governor of Nebraska and recently administrative assistant to President Eisenhower, was named by the President on Feb. 19 as administrator of the Federal Civil Defense Administration. He will serve as acting defense head until his appointment is confirmed by the Senate.

The post was formerly held by Millard F. Caldwell. His deputy, James J. Wadsworth, took over during the closing months of the Truman administration. Wadsworth will become Deputy U.S. Representative to the United Nations.

The post of administrator carries a salary of $17,500 a year. Mr. Peterson was formerly publisher of the Elgin (Neb.) Review and during the war he served as a lieutenant-colonel in the Air Force.

Chief David Kidney Retires

One of New York City's most colorful veteran fire-fighters retires, officially, March 15, 1953, at the age of 70, from the department he has served for 48 years. He is David J. Kidney, for the

McINTIRE GATE VALVES

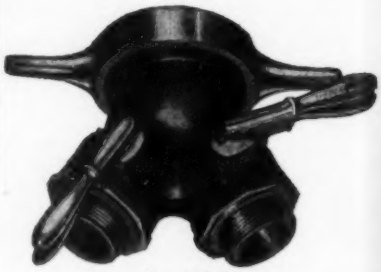

Fig. 164AN

4½" swivel female x two 2½" male Gated Siamese. Quick opening, ¼ turn valves.

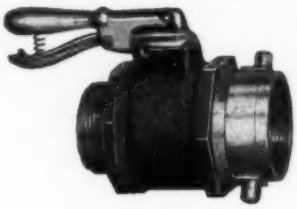

Fig. 163

Made either Right Hand or Left Hand 2½" male x female, gate valve.

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past 8 years head of the Bureau of Fire Prevention.

For many years Chief Kidney had a reputation as a field commander of fire fighters. From his appointment in 1905 until 1944, when he was forced to take light duty as a result of being knocked out by smoke, he commanded at hundreds of serious fires.

Chief Kidney who preferred to study fire fighting rather than enjoy recreation in idle moments, became a lieutenant eight years after entering the department. When he was advanced to captain eight years later, he became the youngest captain in the department. In 1919 he made first on the Battalion Chief's eligible list and was assigned to the 34th battalion. He rose to Deputy Chief in 1925.

The veteran made the Department's Roll of Honor five times. His future plans are not announced but he says "might visit his son, who is deputy public defender in Los Angeles County."

Town Chief Finds Plenty to Do

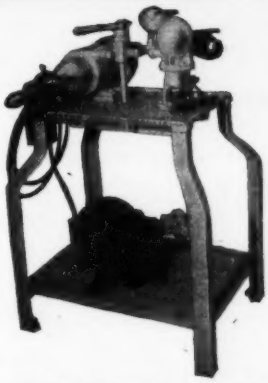
Chief Roy S. Turton, of Shelburne Falls, Mass., is chief of a fire department in a busy community. An etcher by trade, employed by the Lamson & Goodnow Mfg. Co., he, like his call firemen, does not let business or anything else interfere with fire fighting.

For 40 years as a fireman, the last 20 of them chief of the department, Chief Turton has headed up many activities in his community. He not only responded to fire and emergency calls and directs operations, but he presides at the monthly meetings of the department, directs training of fire fighters, using state facilities as well as local talent and assigns men and apparatus to respond to calls from outside the fire district. He also has the task of issuing permits for outdoor fires and finds time, somehow, to conduct inspections of places of assembly and other occupancies.

Turton has also found time to take an active part in fraternal and service organizations. He is secretary of the Kiwanis Club (incidentally, he induced them to sponsor purchase of an ambulance for the community); he is secretary of both the Western Massachusetts Fire Service Club and the Western Massachusetts Forest Wardens Association and, in addition, is Buckland Fire Warden and town auditor.

The Chief is particularly proud of his fire alarm system, of which he has been custodian since its inauguration. He claims that Shelburne Falls has a better per capita ratio of fire alarm boxes than any community in the United States (about one box to every 40 persons). He lives with a bell alarm system close at hand in home and business. He and his assistant chief Edward Sauter are on direct telephone hookups; if the Chief fails to answer a call, the assistant does. If the two are not handy to the phone, the call is answered at a third phone in March's Pharmacy, which place of business is notified in case of absence of both top men. Signals on the fire whistle also call the chief (in lieu of radio) should he be about town at the time he is needed.

Chief Turton also helped organize the Tri-State Mutual Fire Aid System, which now serves 43 towns in Massachusetts, New Hampshire and Vermont.



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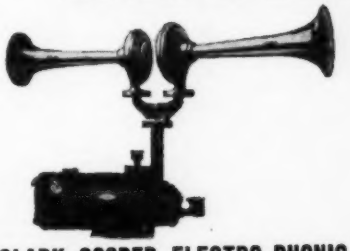

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Presently, he is a Director in that organization.

This, in part, is the story of another of those "sparkplugs" of the fire service who are never too busy to take on more work—and make good at it.

Obituaries

Chief P. J. Hurley Dead

Patrick J. Hurley, Chief of the Holyoke, Mass. Fire Department for 25 years before his retirement in 1940, died last month, at the age of 83. He was one of New England's most widely known

Former Chief P. J. Hurley

and popular fire fighters and his long career of loyal service was outstanding.

Chief Hurley joined the department as a substitute in May, 1892, under the late Chief John Lynch. He was made a permanent member in March, 1896, and promoted to captain less than a month later. In Feb., 1913, he was advanced to deputy chief. His appointment to chief came in July, 1915, shortly after the death of Chief Lynch.

During his regime, Chief Hurley saw his department entirely motorized and many innovations instituted to improve fire fighting and working conditions of firemen. In 1914 and 1915 he was commended for bravery in action.

The Chief was a member of the International Association of Fire Chiefs, past-president (1925) of the New England Association of Fire Chiefs, and past president (1926-27) of the Massachusetts Fire Club.

He leaves a wife and sister. Interment was in Holyoke with a large contingent of his New England friends and associates in attendance.

Frank Gillooly Dead

Word has been received of the death of Frank Gillooly, who for many years was in charge of fire alarm systems in the Eastern area for Federal Enterprises, Inc. He passed away January 21 at his home, 1347 Azalea Drive, Jacksonville, Fla.

Mr. Gillooly was with Federal from 1925 to 1937, after which he became President of Southeast Engineering Co., in Florida. At the time of his death he was actively associated with the Elmer Wheeler Sales Training program, and President of Sizzle Club International. Surviving is his widow, Rubye.

George W. Krapp Dead

George W. Krapp, former Secretary and Treasurer of the Ahrens-Fox Fire Engine Company, Cincinnati, Ohio, died at his home in that city on January 13, following a month's illness. He was 89 years old.

Mr. Krapp, who retired from the company in 1929, spent all his business life with the Ahrens-Fox Company.

He is survived by his widow, one daugher, two sons, five grandchildren and eight great-grandchildren.

With the passing of Mr. Krapp, there remains but one survivor of the original company. He is G. F. Ahrens, who left the company in 1910.

W. W. Hooper of Ansul Dies

W. W. Hooper, Chicago district manager of Ansul Chemical Company's Fire Equipment Division, died Jan. 20, 1953, after an illness of several months. Hopper joined Ansul in 1946 and was appointed Chicago manager in 1949. He is survived by his wife and two children, a son and a daughter.

J. C. McMinn Dead

J. Creighton McMinn of College Park, Ga., Regional Manager of the Southern Atlantic States for Safety First Products Corp. of Elmsford, N. Y., died of a heart attack on February 20, 1953. Since September, 1948, Mr. McMinn was associated with the above company and, active up to the moment of his death, was well known to many Fire Departments and industrial accounts throughout that region.

Research Truck Studies Fires

The Canadian National Research Council has a new fire truck which goes to fires, but has nothing to do with their extinguishment. Rather, its function is to prevent future blazes.

The unit is stocked with research equipment designed to discover how fires start and how they spread. Its instruments measure radiation from fires, temperatures, moisture content, wind and other fire factors. According to press reports, researchers have checked on 33 fires in the Ottawa, Ontario area.

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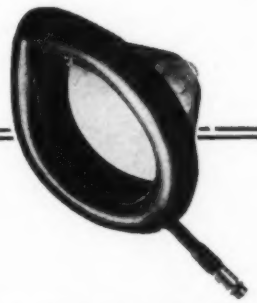

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Pre-Planning Proves a Factor in Controlling Cannery Fire

(*Continued from page* 200)

for fire fighters. Humidity was 55%, Temperature 35° F., wind 3 m.p.h. from East.

Water supply was adequate; flow tests the day of the fire made from two hydrants simultaneously showed Static 112 pounds; Residual 90 pounds and Flow, 3953 gallons per minute. Probable maximum flow during the fire was about 6500 g.p.m., with pressure at intake of pumpers at 50 pounds.

Conclusions and Recommendations

We quote from the conclusions of the Pacific Fire Rating Bureau:

The combined fire departments did a fine piece of work. Monterey Cannery Row has long been viewed with apprehension by insurance interests and fire department executives. The fire of December 8 involved two buildings before the first department reached the scene and many of the elements for a conflagration were present. Weather conditions were favorable to the firemen, but the fire was extinguished by prompt and skillful execution of well laid plans and courageous action on the part of personnel. Every firemen who fought the fire should feel a justifiable pride for his part in a difficult job well done.

RECOMMENDATIONS:

1. An approved fire detection system or standard watchman and clock service should be prrovided for all high value and/or large area locations.

2. Standard automatic sprinkler systems should be installed in large area industrial and warehouse locations.

3. Enclosed passageways between buildings should be provided with automatically operated draft stops at both ends of the passageway. Standard fire doors are recommended, but even sheet metal doors have value, as was proved in this fire.

4. Vertical communications should be provided with doors equal in fire resistive property to the adjoining floors. An open stairway probably helped spread this fire.

5. Maximum use of heavy stream appliances is recommended. Single hose streams are deflected by air currents or are thrown back by building walls.

Heavy streams penetrate billowing air and knock down light walls. Thus, water reaches the seat of the fire and is converted into steam, thereby producing the maximum quenching effect.

Wherever possible, turrets should be mounted on hose wagons or battery wagons should be used. If turrets are used on pumpers, the pumper must be attached to a hydrant right at the fire. Otherwise the pump is useless and the piece of equipment serves merely as a battery wagon. A turret mounted on a pumper working at a hydrant a block away from the fire has no value.

Portable deluge sets can be used in areas where turrets or battery wagons cannot be brought into play. At this fire, maximum damage occurred in areas that were covered by single hose streams.

6. An aerial ladder would have been very useful in this fire. Large-area buildings, even when low, are difficult to cover completely from the ground; but a heavy stream from the top of an aerial can shoot down into the center of a building.

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Chief---

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If your badge is a BLACKINTON BADGE you realize true quality and you know that your badge is the finest. But if you are one of the few not wearing a BLACKINTON BADGE you've missed a lot in personal satisfaction. Ask to see BLACKINTON BADGES the next time your equipment supplier calls. He will gladly show you the true quality and outstanding appearance of BLACKINTON BADGES.

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